

**State of Michigan
Department of Environmental Quality**

Land and Water Management Division
420 Fifth Street
Gwinn MI, 49841
906-346-8300

File No. 09-52-0086-P

Date: December 17, 2009

PUBLIC NOTICE

Woodland Road LLC, 504 Spruce Street, Ishpeming, Michigan, 49849, has applied to this office for a permit under authority of Part 301, Inland Lakes and Streams, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Woodland Road LLC is a partnership between A. Lindberg and Sons, Inc., Michigan Forest Products Council, John Jilbert, and Kennecott Eagle Minerals Company. The applicant proposes to construct a 22.3 mile long road from US-41 in Humboldt Township north traversing Ely and Michigamme Townships, ending in Champion Township at the intersection of Trail 5 and Triple A Road. Woodland Road will be a multi-purpose road open to mining, logging, and aggregate industries, and public recreational use. The road will cross the Middle Branch Escanaba River, Second River, Koops Creek, Voelkers Creek, Dead River, Wildcat Canyon Creek, Mulligan Creek, Yellow Dog River, and several wetland areas. A total of approximately 31 acres of wetland will be impacted with the total excavation of approximately 124,279 cubic yards of material and the total placement of approximately 436,583 cubic yards of material. Emergent, scrub/shrub, and forested wetland will be impacted. Some wetlands overlap the 100-year floodplain of the river and streams. A total of 61 existing culverts will be removed and 116 new culverts installed, with 99 equalization culverts in wetland and 17 culverts at stream crossings. A total of approximately 818 cubic yards of rip rap will be utilized to stabilize culverts and streambanks. Three existing bridges will be removed and six new bridges installed and stabilized with a total of approximately 597 cubic yards of rip rap. The ordinary high water mark has been determined to be at the top of bank for the impacted water bodies. Mitigation has been proposed through creation, preservation, and restoration. The project is located in T49N, R29W, Sections 2, 11, 14, 23, 25, 26 & 36; T49N, R28W, Sections 31 & 32; T48N, R29W, Sections 1, 25, 26, & 35; T50N, R28W, Section 18 of Champion Township; T48N, R28W, Sections 5, 7, 8, 18, 19, & 30 of Ely Township; T50N, R29W, Sections 13, 23, 24, 26 & 35 of Michigamme Township; and T47N, R29W, Section 2 of Humboldt Township, Marquette County, Michigan. Due to the volume of the application file, the entire application package is available at http://www.michigan.gov/deg/0,1607,7-135-3307_29692_24403---,00.html, or at the following locations: Land and Water Management District Office in Gwinn (906-346-8300), Land and Water Management Division Office, Constitution Hall, Lansing (517-373-9244), Peter White Library (906-228-9510), Champion Township Hall (906-339-2920), Ely Township Hall (906-486-6802), Humboldt Township Hall (906-339-2927), and Michigamme Township Hall (906-323-6608). **A Public Hearing has been scheduled for Wednesday, February 10, 2010.**

THIS NOTICE IS NOT A PERMIT

The proposed project may also be regulated by one or more additional parts of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, that are administered by the Land and Water Management Division (LWMD). The requirements of applicable parts are considered in determining if it is in the public interest to issue a permit.

When a permit application is received requesting authorization to work in or over the inland waters of the State of Michigan, pursuant to PART 301, INLAND LAKES AND STREAMS, OF THE NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION ACT, 1994 PA 451, AS AMENDED, the Act provides that the department submit copies for review to the department of public health, the city, village or township, and the county where the project is to be located, the local soil conservation district, any local watershed council organized under Part 311, and the local port commission. Additional notification is provided to certain persons as required by statute or determined by the department.

Those persons wanting to make comments on the proposed project shall furnish this office with their written comments no later than 20 days from the date of this notice. Written comments will be made part of the record and should reference the above file number. Objections must be factual, specific, and fully describe the reasons upon which any objection is founded. Unless a written request is filed with the department within the 20-day public comment period, the department may make a decision on the application without a public hearing. The determination as to whether a permit will be issued or a public hearing held will be based on evaluation of all relevant factors defined in Sections 30106 and 30311, or permit criteria defined by other appropriate Parts of the NREPA. These Sections address the effect of the proposed work on the public trust or interest including navigation, fish, wildlife, and water quality among other criteria. Public comments received will also be considered.

This application will be reviewed by federal agencies in accordance with an agreement with the U.S. Environmental Protection Agency, under provisions of Section 404 of the Federal Clean Water Act Amendments of 1977.

cc: DNR, Natural Heritage
DNR, Wildlife-Marquette
Marquette Co. Clerk
Marquette Co. Drain Comm.
Woodland Road LLC, applicant
LWMD, 404
USFWS
Peter White Library
Michigamme Township Clerk
See file for adjacent property owners

DNR, Fisheries-Escanaba
Marquette Co. Health Dept.
Humboldt Township Clerk
Marquette Soil Conservation Dist.
LWMD, Floodplains, S. Conradson
USACE
USEPA
Ely Township Clerk
Champion Township Clerk
King & MacGregor



US Army Corps of Engineers (USACE)

Michigan Department of Environmental Quality (MDEQ)

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AGENCY USE District Office Gwynn Mike Smidinstki	Previous USACE Permit or File Number	Date Received OCT 08 2009	Land and Water Management Division, MDEQ File Number 09-52-0086	AGENCY USE Fee received \$ F2,000 CC
	USACE File Number		Pre-application Number or Marina Operating Permit Number	
			Land & Water Mgt. Div. Permit Consolidation Unit	

Read Instructions pages I - III. All of the following boxes below must be checked and information provided for the application to be processed:

- All items in Sections 1 through 9 are completed
 Items in Sections 10 through 21 that apply to the project are completed
 Dimensions, volumes and calculations are provided
 Reproducible location map, site plan(s), cross sections and photographs are provided, one set must be black and white on 8 1/2 by 11 inch paper.
 List any additional attachments, tables, etc.: See attached Table of Contents

1 PROJECT LOCATION INFORMATION

Refer to your property's legal description for the Township, Range, and Section information, and your property tax bill for your Property Tax Identification Number(s).					
Site location Address (read, if no street address) Woodland Road	Zip Code	Township Name(s) Michigan, Champion, Ely, Humboldt	Township(s) see	Range(s) attach	Section(s) ment
City/Village	County(es) Marquette	Property Tax Identification Number(s) see attachment			
Name of Waterbody see attachment	Project Name or Job Number 02004	Subdivision/Plat	Lot Number	Private Claim	
Project types (check all that apply)	<input checked="" type="checkbox"/> private <input type="checkbox"/> public/government <input type="checkbox"/> building addition <input checked="" type="checkbox"/> new building or structure <input type="checkbox"/> project is receiving federal transportation funds	<input type="checkbox"/> industrial <input type="checkbox"/> building renovation or restoration <input type="checkbox"/> other (explain) multi-use road construction	<input type="checkbox"/> commercial <input type="checkbox"/> river restoration <input type="checkbox"/> a legally established County Drain (date established) (M/D/Y)	<input type="checkbox"/> multi-family <input type="checkbox"/> single-family	
The proposed project is on, within, or involves (check all that apply)	<input checked="" type="checkbox"/> a stream <input type="checkbox"/> a pond (less than 5 acres) <input checked="" type="checkbox"/> a river <input type="checkbox"/> a channel/canal <input type="checkbox"/> a ditch or drain <input type="checkbox"/> an inland lake (5 acres or more) <input checked="" type="checkbox"/> a floodway area <input checked="" type="checkbox"/> a 100-year floodplain	<input type="checkbox"/> a designated high risk erosion area <input type="checkbox"/> a designated critical-dune area <input type="checkbox"/> a designated environmental area	<input type="checkbox"/> a natural river <input type="checkbox"/> a new marina <input type="checkbox"/> a dam <input checked="" type="checkbox"/> a structure removal <input type="checkbox"/> a wetland <input type="checkbox"/> a utility crossing <input type="checkbox"/> 500 feet of an existing waterbody		

2 DESCRIBE PROPOSED PROJECT AND ASSOCIATED ACTIVITIES, AND THE CONSTRUCTION SEQUENCE AND METHODS (attached additional sheets)

Written Summary of All Proposed Activities. see attachment

Construction Sequence and Methods. Project to be constructed in phases. Stake project limits. Clear site. Begin site grading (cut & fill). Remove existing culverts and bridges. Install new culverts and bridges. Complete site grading. Obliterate abandoned roads and driveways. Perform wetland restoration excavation. Complete wetland mitigation construction.

3 APPLICANT, AGENT/CONTRACTOR, AND PROPERTY OWNER INFORMATION

Owner/Applicant (individual or corporate name) Woodland Road LLC	Agent/Contractor (firm name and contact person) King & MacGregor Environmental, Inc Attn: Chuck Wolverton
Mailing Address 504 Spruce Street	Address 14039 Lakeside Avenue
City Ishpeming State MI Zip Code 49849	City Bear Lake State MI Zip Code 49614
Daytime Phone Number with Area Code	Daytime Phone Number with Area Code
Cell Phone Number	Cell Phone Number 231-912-0505
Fax	Fax 616-957-2198
E-mail	E-mail chwolverton@King-macgregor.com

No Yes Is the applicant the sole owner of all property on which this project is to be constructed and all property involved or impacted by this project?
 If no, attach letter(s) of authorization from all owners. A letter signed by each property owner authorizing the agent/contractor/other owner to act on his or her behalf or a copy of easements or right-of-ways must be provided. If multiple property owners, also attach a list of all owners along with their names, mailing addresses, and telephone numbers. If the applicant is a corporation, a corporate officer must provide written document authorizing any agent/contractor listed above to act on its behalf.
 A letter of authorization must be provided from an owner receiving dredge spoils on their property, or where access through their property is required.

Property Owner's Name (if different from applicant) All individuals referenced in Section 8	Mailing Address are property owners unless otherwise noted. Land Owner Letters of Authorization are attached.			
Daytime Phone Number with Area Code	Cell Phone Number	City	State	Zip Code

MDEQ Permit Application

Woodland Road LLC - DEQ File No. 09-52-0071-P

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Section 2 – Proposed Activities

Land & Water Mgt. Div.
Permit Consolidation Unit

Project Description

Excavate approximately 124,279 cubic yards of material from, and place approximately 436,583 cubic yards of fill within, 31.09 acres of wetland.

Of the wetland fill, a total of approximately 8,898 cubic yards is below the 100-year floodplain elevation of Middle Branch Escanaba River (2,298+/- cubic yards), Second River (2,220+/- cubic yards), Koop's Creek (1,467+/- cubic yards), Dead River (559+/- cubic yards), Mulligan Creek (1,066+/- cubic yards), and Yellow Dog River (1,288+/- cubic yards). Excavate a total of approximately 7,950 cubic yards of material below the 100-year floodplain elevation of the Middle Branch Escanaba River (6,000+/- cubic yards), Dead River (660+/- cubic yards), and Yellow Dog River (1,290+/- cubic yards) to compensate for floodplain fill.

Remove 61 existing culverts. Install 116 culverts with approximately 818 cubic yards of riprap (99 culverts for equalization/runoff & 17 at stream crossings).

Remove three existing bridges (Dead River, Mulligan Creek, Yellow Dog River). Construct a total of six bridges across streams/rivers (Middle Branch Escanaba River, Second River, Koops Creek, Dead River, Mulligan Creek, and Yellow Dog River). Place approximately 597 cubic yards of riprap, in total, at the bridge locations.

As mitigation for wetland resource impacts, a total of approximately 66.37 acres of wetland mitigation is proposed in the form of a combination of wetland creation (52.85 acres), preservation (10 acres), and restoration (3.52 acres). A detailed wetland mitigation plan and narrative is attached.

Notes: All "cross-road" culverts are included in this application. "Drive Culverts" shown on the plans are proposed within upland drainageways adjacent to driveways and roads and are not considered regulated activities. Therefore, specific construction details are not provided.

Excavated organics and topsoil will be stockpiled within the construction limits of the proposed road and placed as top cover on finished slopes and to provide the necessary organic layer within the wetland creation areas.



<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes: Is there a MDEQ conservation easement or other easement, deed restriction, lease, or other encumbrance upon the property in the project area? <input type="checkbox"/> If yes, attach a copy.																									
4. PROPOSED PROJECT PURPOSE, INTENDED USE, AND ALTERNATIVES CONSIDERED (Attach additional sheets if necessary) Purpose/Intended Use: The purpose must include any new development or expansion of an existed land use. <i>The purpose of this project is to construct a multi-purpose road to connect key industrial, commercial, and recreational areas in northwest Marquette County to US-41.</i> Alternatives: Include a description of alternatives considered to avoid or minimize resource impacts. Include factors such as, but not limited to, alternative construction technologies; alternative project layout and design; and alternative locations. For utility crossings, include both alternative routes and alternative construction methods. <i>See attached Alternatives Analysis document.</i>																									
5. LOCATING YOUR PROJECT SITE <input type="checkbox"/> Attach a black and white, legible copy of a map that clearly shows the site location and road from the nearest major intersection, and includes a north arrow. Is there an access road to the project? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes (If Yes, type of road, check all that apply) <input type="checkbox"/> private <input checked="" type="checkbox"/> public <input type="checkbox"/> improved <input checked="" type="checkbox"/> unimproved Name of roads at closest main intersection US Highway 41 and County Road FY Directions from main intersection <i>South end of proposed road begins at main intersection and winds north approximately 22 miles to County Road AAA.</i> Style of house or other building on site <input type="checkbox"/> ranch <input type="checkbox"/> 2-story <input type="checkbox"/> cape cod <input type="checkbox"/> bi-level <input type="checkbox"/> cottage/cabin <input type="checkbox"/> pole barn <input type="checkbox"/> none <input type="checkbox"/> other (describe) Color of adjacent property house and/or buildings House number Street name Fire lane number Lot number Address is visible on <input type="checkbox"/> house <input type="checkbox"/> garage <input type="checkbox"/> mailbox <input type="checkbox"/> sign <input type="checkbox"/> other (describe) How can your site be identified if there is no visible address? Provide directions to the project site, with distances from the best and nearest visible landmark and waterbody. <i>Site Location Map attached.</i> Does the project cross the boundaries of two or more political jurisdictions? (City/Township, Township/Township, County/County, etc.) <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes * If Yes, list jurisdictions: Michigamme Township, Champion Township, Ely Township, Humboldt Township																									
6. List all other federal, interstate, state, or local agency authorizations required for the proposed activity, including all approvals or denials received. <table border="1"> <thead> <tr> <th>Agency</th> <th>Type approval</th> <th>Identification number</th> <th>Date applied</th> <th>Date approved / denied</th> <th>If denied, reason for denial</th> </tr> </thead> <tbody> <tr> <td>MCCD</td> <td>SESC</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>MERC</td> <td>Trans. Plan</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>MDOT</td> <td>Permit to Connect (Woodland Rd to US41)</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p style="text-align: right;">RECEIVED</p> <p style="text-align: right;">OCT 08 2009</p> <p style="text-align: right;">Land & Water Mgt. Div. Permit Consolidation Unit</p>		Agency	Type approval	Identification number	Date applied	Date approved / denied	If denied, reason for denial	MCCD	SESC					MERC	Trans. Plan					MDOT	Permit to Connect (Woodland Rd to US41)				
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MCCD	SESC																								
MERC	Trans. Plan																								
MDOT	Permit to Connect (Woodland Rd to US41)																								
7. COMPLIANCE If a permit is issued, date activity will commence (M/D/Y) ASAP/ / Proposed completion date (M/D/Y) / / <i>5 years after permit issuance</i> Has any construction activity commenced or been completed in a regulated area? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> If Yes, identify the portion(s) underway or completed on drawings or attach project specifications and give completion date(s) (M/D/Y) / / Were the regulated activities conducted under a MDEQ permit? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If Yes, list the MDEQ permit number Are you aware of any unresolved violations of environmental law or litigation involving the property? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (If Yes, explain)																									



US Army Corps of Engineers (USACE)

Michigan Department of Environmental Quality (MDEQ)

DEC

- If you own the adjacent lot, provide the requested information for the first adjacent parcel that is not owned by you.

Property Owner's Name	Mailing Address	City	State	Zip Code
Plum Creek Timberlands, LP Attn: Kendall Fountain GMO Renewable Resources LLC c/o Eric Stier - American Forest Management, Inc.	2500 Daniels Bridge Road, Ste 2A, Bldg 200 Athens, GA 30606			
Longyear Realty Corporation Attn: Stephen J. Hicks, President & CEO Kennebott Eagle Minerals Co. Kennebott Eagle Land LLC Callahan Mining Corp. WE Energies Humboldt Properties LLC Michigan Department of Natural Resources Attn: William Brondyke Humboldt Wetlands Preserve LLC Attn: Roger Crimmins, President A. Lindberg & Sons, Inc. Attn: Roger Crimmins, President Christopher and Denise Andrews Gary D. and Lynn K. Laitala James & Vivian Penrose Michael and Wendy Rautio Pamela Sue Solka	45815 Highway M-26 210 N. Front Street 504 Spruce Street 504 Spruce Street PO Box 1 231 W. Michigan Rm A-252 110 Airport Road 410 W. M-35 560 Mather Avenue 560 Mather Avenue 3563 Brunswick Road 15180 U.S. 41 1320 Co. Rd. PPO 814 Wabash Street 313 N. Brown Avenue	Atlantic Mine, MI 49905 Marquette, MI 49855 Ishpeming, MI 49849 Ishpeming, MI 49849 Coeur D'Alene, ID 83816 Milwaukee, WI 53201 Negaunee, MI 49866 Grawn, MI 49841 Ishpeming, MI 49849 Ishpeming, MI 49849 Houghton, MI 49931 Champion, MI 49814 Land & Water, Ishpeming, MI 49849 Marquette, MI 49849 Negaunee, MI 49866	MI	
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		OCT 08 2009	MI	49849

Landowners Near Project:

Jeffery Vogt & Curtis Heidke
Allan & Barbara Cramer
Mudjekewis LLC

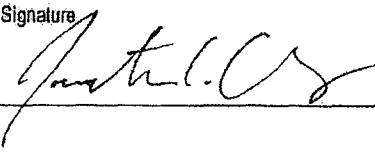
PO Box 169	Abrams	WI	54101
4311 Springfield Court	Manitowoc	WI	54220
221 Lakewood Lane	Marquette	MI	49855

Name of Established Lake Board or Lake Association
and the Contact Person's name, phone number, and mailing address

9. APPLICANT'S CERTIFICATION

READ CAREFULLY BEFORE SIGNING

I am applying for a permit(s) to authorize the activities described herein. I certify that I am familiar with the information contained in this application; that it is true and accurate; and, to the best of my knowledge, that it is in compliance with the State Coastal Zone Management Program. I understand that there are penalties for submitting false information and that any permit issued pursuant to this application may be revoked if information on this application is untrue. I certify that I have the authority to undertake the activities proposed in this application. By signing this application, I agree to allow representatives of the MDEQ, USACE, and/or their agents or contractors to enter upon said property in order to inspect the proposed activity site and the completed project. I understand that I must obtain all other necessary local, county, state, or federal permits and that the granting of other permits by local, county, state, or federal agencies does not release me from the requirements of obtaining the permit requested herein before commencing the activity. I understand that the payment of the application fee does not guarantee the issuance of a permit.

<input type="checkbox"/> Property Owner <input type="checkbox"/> Agent/Contractor <input checked="" type="checkbox"/> Corporation/Public Agency - Title LLC Manager	Printed Name Jonathan C. Cherry	Signature 	Date (M/D/Y) 8/4/09
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US Army Corps of Engineers (USACE)

Michigan Department of Environmental Quality (MDEQ)

DEQ

Land & Water Mgt. Div.
Permit Consolidation Unit**10 PROJECTS IMPACTING WETLANDS OR FLOODPLAINS OR LOCATED ON AN INLAND LAKE OR STREAM OR A GREAT LAKE**

- Check boxes A through M that may be applicable to your project and provide all the requested information.
- If your project may affect wetlands, also complete Section 12. If your project may impact regulated floodplains, also complete Section 13.
- To calculate volume in cubic yards (cu yd), multiply the average length in feet (ft) times the average width (ft) times the average depth (ft) and divide by 27.
- Some projects on the Great Lakes require an application for conveyance prior to Joint Permit Application completeness.
- Provide a cross-section and overall site plan showing existing lakes, streams, wetlands, and other water features; existing structures; and the location of all proposed structures, land change activities and soil erosion and sedimentation control measures. Review Appendix B and EZ Guides for completing site-specific drawings.
- Provide tables for multiple impact areas or multiple activities and provide fill and excavation/dredge calculations.

Water Level Elevation

On a Great Lake use IGLD 85 surveyed converted from observed still water elevation. On inland waters, NGVD 29 NAVD 88 either
Observed water elevation (ft) **date of observation (M/D/Y)**

A. PROJECTS REQUIRING FILL (See All Sample Drawings)

- Attach both overall site plan and cross-section views to scale showing maximum and average fill dimensions.

(Check all that apply) floodplain fill wetland fill riprap seawall, bulkhead, or revetment bridge or culvert
 boat launch off-shore swim area beach sanding boatwell crib dock other

Fill dimensions (ft)	Total fill volume (cu yd)	Maximum water depth in fill area (ft)
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length see width Section 10A maximum depth spreadsheet	Will filter fabric be used under proposed fill?
---	--

Type of clean fill pea stone sand gravel wood chips
 other **blasted rock from road project** No Yes (If Yes, type)

Source of clean fill on-site, If on-site, show location on site plan. commercial other, If other, attach description of location.

Fill will extend feet into the water from the shoreline and upland feet out of the water	Fill volume below OHWM (cu yd) see spreadsheet
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B. PROJECTS REQUIRING DREDGING OR EXCAVATION (For dredging projects see Sample Drawing 7, for excavation see other applicable Sample Drawings)

- Attach both overall site plan and cross-section views to scale showing maximum and average dredge or excavation dimensions and dredge disposal location.
- Refer to www.michigan.gov/poinpermit for disposal requirements and authorization.

(Check all that apply) floodplain excavation wetland dredge or draining seawall, bulkhead, or revetment
 navigation boat well boat launch other

Total dredge/excavation volume (cu yd)	Dimensions length see width Section 10B depth spreadsheet	Dredge/excavation volume below OHWM (cu yd) see spreadsheet	Method and equipment for dredging Mechanical
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Has proposed dredge material been tested for contaminants? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> If Yes, provide test results with a map of sampling locations.	Dredged or excavated spoils will be placed <input checked="" type="checkbox"/> on-site <input type="checkbox"/> off-site. <input type="checkbox"/> Provide detailed disposal area site plan and location map. <input type="checkbox"/> Provide letter of authorization from owner, if disposing of spoils off site.
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Has this same area been previously dredged? No Yes If Yes, data and permit number:

If Yes, are you proposing to enlarge the previously dredged area? No Yes

Is long-term maintenance dredging planned? No Yes If Yes, when and how much?

C. PROJECTS REQUIRING RIPRAP (See Sample Drawings 2, 3, 8, 12, 14, 17, 22, and 23. Others may apply)

Riprap waterward of the <input type="checkbox"/> shoreline OR <input type="checkbox"/> ordinary high water mark	Dimensions (ft) length see width Section 10C depth spreadsheets	Volume(cu yd)
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Riprap landward of the <input type="checkbox"/> shoreline OR <input type="checkbox"/> ordinary high water mark	Dimensions (ft) length width depth	Volume(cu yd)
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Type of riprap <input type="checkbox"/> field stone <input checked="" type="checkbox"/> angular rock <input type="checkbox"/> other	Will filter fabric be used under proposed riprap? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> If Yes, type) geotextile (Boz. non-woven)
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D. SHORE PROTECTION PROJECTS (See Sample Drawings 2, 3, and 17) Complete Sections 10A, B, and/or C above, as applicable.

(check all that apply) <input type="checkbox"/> riprap – length (ft) <input type="checkbox"/> seawall/bulkhead – length (ft) <input type="checkbox"/> revetment – length (ft)	Distances of project from both property lines (ft)
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E. DOCK - PIER - MOORING PILINGS - ROOFS (See Sample Drawing 10)

Dock Type <input type="checkbox"/> open pile <input type="checkbox"/> filled <input type="checkbox"/> crib Seasonal support structure? <input type="checkbox"/> No <input type="checkbox"/> Yes	Permanent Roof? <input type="checkbox"/> No <input type="checkbox"/> Yes Mounted on Maximum Dimensions: length width height
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Proposed structure dimensions (ft) length width	Dimensions of nearest adjacent structures (ft) length width
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F. BOAT WELL (See EZ Guides)

Type of sidewall stabilization wood steel concrete vinyl riprap other

Boat well dimensions (ft) length width depth	Number of boats
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Volume of backfill behind sidewall stabilization (cu yd)	Distances of boat well from adjacent property lines (ft)
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G. BOAT LAUNCH (See EZ Guide) (check all that apply) new existing public private commercial replacement

Proposed overall boat launch dimensions (ft) length width depth	Type of material <input type="checkbox"/> concrete <input type="checkbox"/> wood <input type="checkbox"/> stone <input type="checkbox"/> other
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Existing overall boat launch dimensions (ft) length width depth	Boat launch dimensions (ft) below ordinary high water mark length width depth
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Distances of launch	Number of adjacent	Skid pier
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10 Continued - PROJECTS IMPACTING WETLANDS OR FLOODPLAINS OR LOCATED ON AN INLAND LAKE OR STREAM OR A GREAT LAKE

I. BOARDWALKS AND DECKS IN WETLANDS - OR - FLOODPLAINS (See Sample Drawings 5 and 6. Provide table if necessary)

Dimensions (ft) length width	Deck <input type="checkbox"/> on pilings <input type="checkbox"/> on fill	Dimensions (ft) length width
Boardwalk <input type="checkbox"/> on pilings <input type="checkbox"/> on fill		

J. INTAKE PIPES (See Sample Drawing 16) OUTLET PIPES (See Sample Drawing 22)

Type <input type="checkbox"/> headwall <input type="checkbox"/> end section <input type="checkbox"/> pipe <input type="checkbox"/> other	If outlet pipe, discharge is to <input type="checkbox"/> wetland <input type="checkbox"/> inland lake <input type="checkbox"/> stream, drain, or river <input type="checkbox"/> Great Lake <input type="checkbox"/> other
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Dimensions of headwall OR end section (ft) length width	depth	Number of pipes	Pipe diameters and invert elevations
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K. MOORING AND NAVIGATION BUOYS (See EZ Guide for Sample Drawing)

► Provide an overall site plan showing the distances between each buoy, distances from the shore to each buoy, and depth of water at each buoy in feet.

► Provide cross-section drawing(s) showing anchoring system(s) and dimensions.

Number of buoys	Boat Lengths	Type of anchor system	Purpose of buoy <input type="checkbox"/> mooring <input type="checkbox"/> navigation <input type="checkbox"/> swimming
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Dimensions of buoys (ft) width height swing radius	chain length	Do you own the property along the shoreline? <input type="checkbox"/> No <input type="checkbox"/> Yes ► Attach Authorization Letter from the property owner(s), if No above.
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L. FENCES IN WETLANDS, STREAMS, OR FLOODPLAINS (No Sample Drawing available)

- Provide an overall site plan showing the proposed fencing through wetlands, streams, or floodplains.
- Provide drawing of fence profile showing the design, dimension, post spacing, board spacing, and distance from ground to bottom of fence.

(check all that apply) <input type="checkbox"/> wetlands <input type="checkbox"/> streams <input type="checkbox"/> floodplains	Total length (ft) of fence through wetlands streams floodplains	Fence height (ft)	Fence type and material
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M. OTHER - e.g., structure removal or construction, breakwater, aerator, fish shelter, and structural foundations in wetlands or floodplains

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11 EXPANSION OF AN EXISTING OR CONSTRUCTION OF A NEW LAKE OR POND (See Sample Drawings 4 and 15)

Which best describes your proposed waterbody use (check all that apply) <input type="checkbox"/> wildlife <input type="checkbox"/> stormwater retention basin <input type="checkbox"/> recreation	<input type="checkbox"/> wastewater basin	<input type="checkbox"/> other	OCT 08 2009
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Water source for lake/pond <input type="checkbox"/> groundwater <input type="checkbox"/> natural springs	<input type="checkbox"/> Inland Lake or Stream	<input type="checkbox"/> stormwater runoff	<input type="checkbox"/> pump	<input type="checkbox"/> sewage	<input type="checkbox"/> other	Land & Water Mgt Dlv.
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Location of the lake/basin/pond	<input type="checkbox"/> floodplain	<input type="checkbox"/> wetland	<input type="checkbox"/> upland	Permit Consolidation Unit
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Maximum dimensions (ft) length width depth	Spoils will be placed <input type="checkbox"/> onsite <input type="checkbox"/> offsite outside of wetland and floodplain <input type="checkbox"/> other
---	---

Maximum Area: <input type="checkbox"/> acres <input type="checkbox"/> sq ft	► Provide a Letter of Authorization from off site disposal site owner
--	---

► Provide elevations and cross sections for outlets and/or emergency. Complete Section 10J,

Will project involve construction of a dam, dike, outlet control structure, or spillway? No Yes (If Yes, complete Section 17)

12 ACTIVITIES THAT MAY IMPACT WETLANDS (See Sample Drawings 8 & 9, and complete sections 10 A and 10 B for dredge or excavation as applicable)

- For information on the MDEQ's Wetland Identification Program (WIP) visit www.michigan.gov/deqwetlands or call 517-373-1170.
- Complete the wetland dredge and wetland fill dimension information below for each impacted wetland area. ► Attach tables for multiple impact areas or activities
- Label the impacted wetland areas on a site plan, drawn to scale or with dimensions. ► Attach at least one cross-section for each wetland dredge and/or fill area.
- If dredge/excavation material will be disposed of on site, show the location on site plan and include soil erosion and sedimentation control measures.

(check all that apply) <input checked="" type="checkbox"/> fill (Section 10A) <input checked="" type="checkbox"/> dredge or excavation (Section 10B) <input type="checkbox"/> boardwalk or deck (Section 10I) <input type="checkbox"/> dewatering <input type="checkbox"/> fences (Section 10L)

<input checked="" type="checkbox"/> bridges and culverts (Section 14) <input type="checkbox"/> draining surface water <input type="checkbox"/> stormwater discharge <input type="checkbox"/> restoration <input type="checkbox"/> other

wetland dredge/excavation dimensions <i>see Section 12 spreadsheet</i>	maximum length (ft)	maximum width (ft)	dredge/excavation area <input type="checkbox"/> acres <input type="checkbox"/> sq ft	average depth (ft)	dredge volume (cu yd)
--	---------------------	--------------------	---	--------------------	-----------------------

wetland fill dimensions <i>see Section 12 spreadsheet</i>	maximum length (ft)	maximum width (ft)	fill area <input type="checkbox"/> acres <input type="checkbox"/> sq ft	average depth (ft)	fill volume (cu yd)
---	---------------------	--------------------	--	--------------------	---------------------

Total wetland dredge/excavation area <input type="checkbox"/> acres <input type="checkbox"/> sq ft 31.09	Total wetland dredge/excavation volume (cu yd) 124,279+-	Total wetland fill area <input checked="" type="checkbox"/> acres <input type="checkbox"/> sq ft 31.09	Total wetland fill volume (cu yd) 436,583+-
--	---	--	--

The proposed project will be serviced by: <input type="checkbox"/> public sewer <input type="checkbox"/> private septic system ► Show system on plans	If septic system, has an application for a permit been made to the County Health Department? <input type="checkbox"/> No <input type="checkbox"/> Yes	If Yes, has a permit been issued? ► Provide a copy of the delineation. ► Supply data sheets.
--	---	--

Has a professional wetland delineation been conducted for this parcel? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	Applicant purchased property <input type="checkbox"/> before OR <input type="checkbox"/> after October 1, 1980.
--	--

Is there a recorded MDEQ easement on the property? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	If Yes, provide the easement number
--	-------------------------------------

Has the MDEQ conducted a wetland assessment for this parcel? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	► If Yes, provide a copy of assessment or WIP number:
--	---

Describe the wetland impacts, the proposed use or development, and any alternatives considered: <i>See Section 4.</i>	
---	--

Does the project impact more than 1/3 acre of wetland? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	► If Yes, submit a Mitigation Plan that includes the type and amount of mitigation proposed. For more information go to www.michigan.gov/deqwetlands
--	--

Describe how impacts to waters of the United States will be avoided and minimized: <i>n/a</i>	
---	--

Describe how impact to waters of the United States will be compensated. OR Explain why compensatory mitigation should not be required for the proposed impacts. <i>n/a</i>	
---	--

Is any grading or mechanized land clearing proposed? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes ► Show locations on submitted site plan.	Has any of the proposed grading or mechanized land clearing been completed? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes ► Show labeled locations on site plan.
--	--

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13 FLOODPLAIN ACTIVITIES (See Sample Drawing 5. Others may apply.) For more information go to www.michigan.gov/ded/floodplainmanagement

- Complete Sections 10A and 10B and other Sections, as applicable.
- A hydraulic analysis or hydrologic analysis may be required to fully assess floodplain impacts. → Attach hydraulic calculations.
- Attach additional sheets or tables with the requested information when multiple floodplain activities are included in this application.

OCT 08 2009

(check all that apply) fill excavation otherLand & Water Mgt. Div.
Permit Consolidation UnitSite is feet above ordinary high water mark (OHWM) OR observed water level. Date of observation (M/D/Y) / /Fill volume below the 100-year floodplain elevation (cu yd) *see Section 13 spreadsheet* Compensating cut volume below the 100-year floodplain elevation (cu yd) *see Section 13 spreadsheet***14 BRIDGES AND CULVERTS** (Including Foot and Cart Bridges) (See Sample Drawings 5, 14A, 14B, 14C, 14D, and EZ Guides)

- Provide detailed site-specific drawings of existing and proposed Plan and Elevation View, (Sample Drawing 14A), Elevation View (Sample Drawing 14B), Stream and Floodplain Cross-Section (Sample Drawing 14C), Stream Profile (Sample Drawing 14D) and Floodplain Fill (Sample Drawing 5) at a scale adequate for detailed review.
- Provide the requested information that applies to your project. If there is not an existing structure, leave the "Existing" column blank.
- If you choose to have a Licensed Professional Engineer "certify" that your project will not cause a "harmful interference" for a range of flood discharges up to and including the 100-year flood discharge, then you must use the "Required Certification Language." You may request a copy by phone, email, or mail. A hydraulic report supporting this certification may also be required. Is Certification Language attached? No Yes
- Attach additional sheets and table with the requested information for multiple crossings. Include hydraulic calculations.

	Existing	Proposed		Existing	Proposed
Culvert type (box, circular, arch) and material (corrugated metal, timber, concrete, etc.)	<i>see Section 14</i>		Bridge span (length perpendicular to stream) OR culvert <input type="checkbox"/> width <input type="checkbox"/> diameter (ft)		
Bridge type (concrete box beam, timber, concrete I-beam, etc.)		<i>spreadsheets</i>	Bridge width (parallel to stream) OR culvert length (ft)		
Entrance design (protecting, mitered, wingwalls, etc.)			Bridge rise (from bottom of beam to streambed) OR Culvert rise (fill from top of culvert to streambed) (ft)		
Total structure waterway opening above streambed (sq ft)			Approach slope fill from existing grade to culvert or bridge		
<input type="checkbox"/> elevation of culvert crown	Upstream		Higher elevation of <input type="checkbox"/> culvert invert OR <input type="checkbox"/> streambed within culvert (ft)	Upstream	
<input type="checkbox"/> bottom of bridge beam (ft)	Downstream			Downstream	
Elevation of road grade at structure (ft)			Distance from low point of road to mid-point of bridge crossing (ft)		
Elevation of low point in road (ft)					
Cross-sectional area of primary channel (sq ft) (See Sample Drawing 14C)			Average stream width at OHWM outside the influence of the structure (ft)	Upstream	Downstream

Reference datum used (show on plans with description) NGVD 29 NAVD 88 IGLD 85 (Great Lakes coastal areas) other

High water elevation – describe reference point and highest known water level above or below reference point and date of observation.

15 STREAM, RIVER, OR DRAIN CONSTRUCTION ACTIVITIES (No sample drawing available)

- Complete Section 10A for fill, Section 10B for dredge or excavation, and Section 10C for riprap activities.
- If side casting or other proposed activities will impact wetlands or floodplains, complete Sections 12 and 13, respectively.
- Provide an overall site plan showing existing lakes, streams, wetlands, and other water features; existing structures; and the location of all proposed structures and land change activities.
- Provide cross-section (elevation) drawings necessary to clearly show existing and proposed conditions. Be sure to indicate drawing scales.
- For activities on legally established county drains, provide original design and proposed dimensions and elevations.

(check all that apply) maintenance improvement relocation enclosure new drain wetlands other

Dimensions (ft) of existing stream/drain channel to be worked on. length	width	depth
Dimensions (ft) of new, relocated, or enclosed stream/drain channel. length	width	depth
Existing channel average water depth in a normal year (ft)		Proposed side slopes (vertical / horizontal)

How will slopes and bottom be stabilized?

Will old/enclosed stream channel be backfilled to top of bank grade? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	Length of channel to be abandoned (ft)	Volume of fill (cu yds)
If an enclosed structure is proposed, check type <input type="checkbox"/> concrete <input type="checkbox"/> corrugated metal <input type="checkbox"/> plastic <input type="checkbox"/> other		
Dimensions of the structure: diameter length volume of fill		
Will spoils be disposed of on site? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes → Show location of spoils on site plan if spoils disposed of on an upland area.)		
Water elevation Reference datum used <input type="checkbox"/> NGVD 29 <input type="checkbox"/> NAVD 88 <input type="checkbox"/> IGLD 85 (Great Lakes coastal areas) <input type="checkbox"/> other → Show elevation on plans with description.		

MDEQ Permit Application
Woodland Road LLC

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TABLE OF CONTENTS

MDEQ/LWMD
PERMIT CONSOLIDATION UNIT

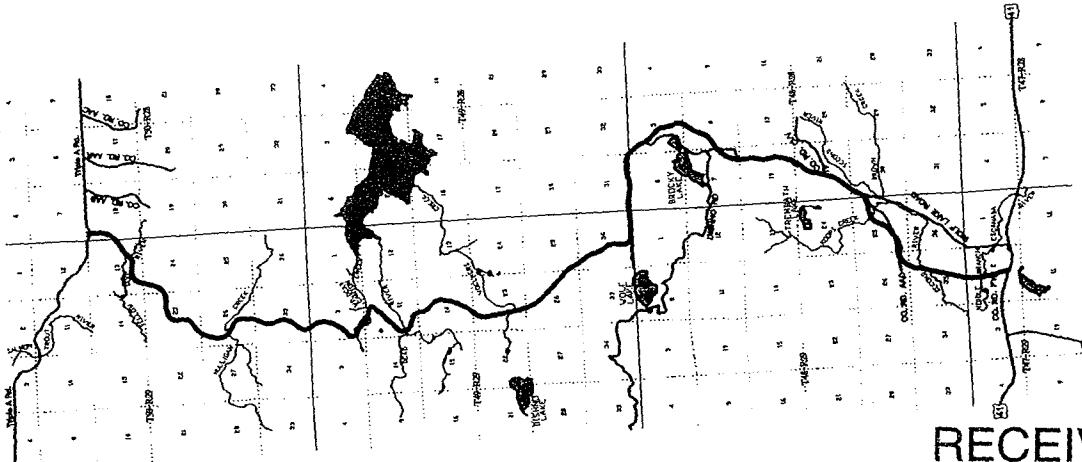
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1. Cover Letter
2. Fee Check
3. Agent Letter
4. Letters of Authorization
5. Application Form
6. Section 1 (Project Location) & Section 2 (Project Description)
7. Wetland Impacts Spreadsheet (Sections 10A, 10B & 12)
8. Bridge Crossing & Riprap Spreadsheet (Sections 10C & 14)
9. Culvert Hydraulic Calculations & Riprap Spreadsheet (Sections 10C & 14)
10. Floodplain Activities Spreadsheet (Section 13)
11. Culvert/Stream Crossing Spreadsheet (Section 14)
12. Site Location Maps
13. Plans
 - a. Plan View and Profile Drawings
 - b. Wetland Cross Sections
 - c. Bridge Details/Cross Sections
 - d. Stream Crossing Details/Cross Sections
 - e. Culvert Cross Sections
 - f. Floodplain Fill/Cut Plans
 - g. Wetland Restoration Cross Section
14. Miscellaneous
 - a. MDEQ Pre-Application Meeting Response July 7, 2008
 - b. MDEQ Pre-Application Meeting Response October 21, 2008
 - c. HEC-RAS Hydraulic Summary
 - d. HEC-RAS Calculations
 - e. Wetland Delineation Report
 - f. Wetland Data Forms
 - g. Wetland Delineation Maps
15. Supporting Documentation

Part One: Alternatives Analysis
Part Two: Environmental Assessment
Part Three: Measures to Avoid and Minimize Natural Resources Impacts
Part Four: Archaeological Survey
Part Five: Analysis of Statutory Criteria and Standards
Part Six: Wetland Mitigation
Appendix A: Conservation Easement for Mulligan Plains
Appendix B: Ecological Surveys Report
Appendix C: Iron Range Consulting – Large Mammal Survey Report

Woodland Road

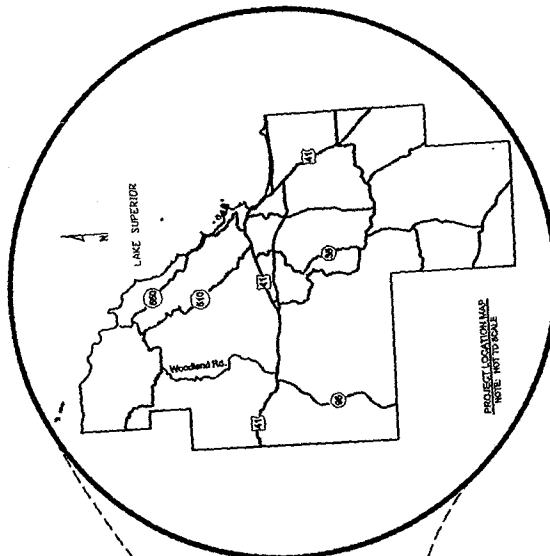
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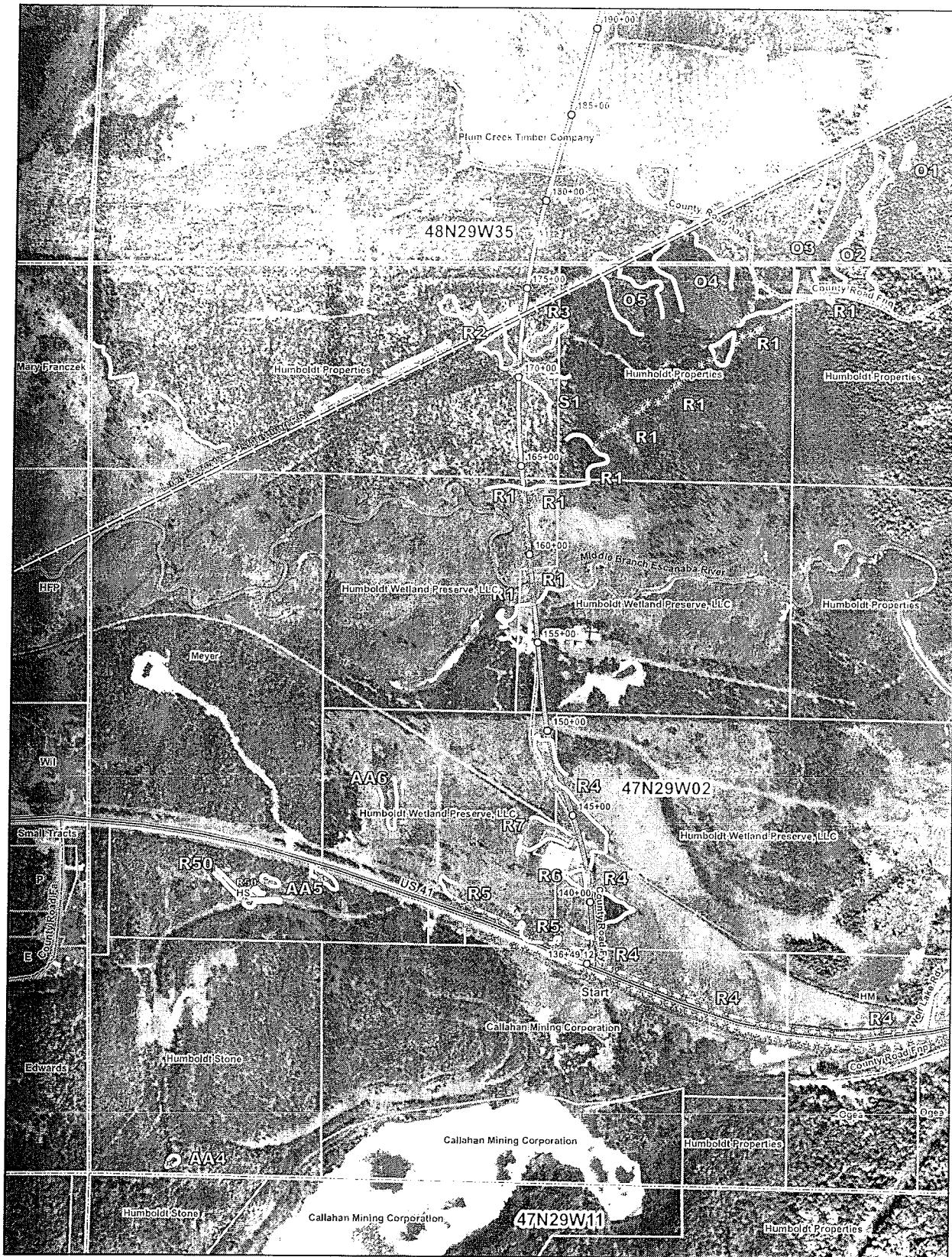
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Land & Water Mgt Div
Permit Consolidation Unit



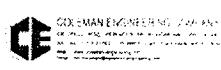
Woodland Road LLC	A. Lindberg & Sons, Inc.	Plan and Profile Drawing Set	Woodland Road	Date 07/13/09	Section A
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Woodland Road LLC

Wetland Delineation Map

Woodland Road

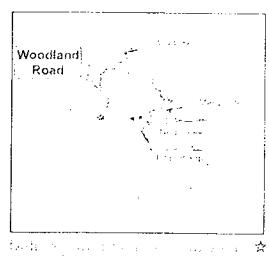


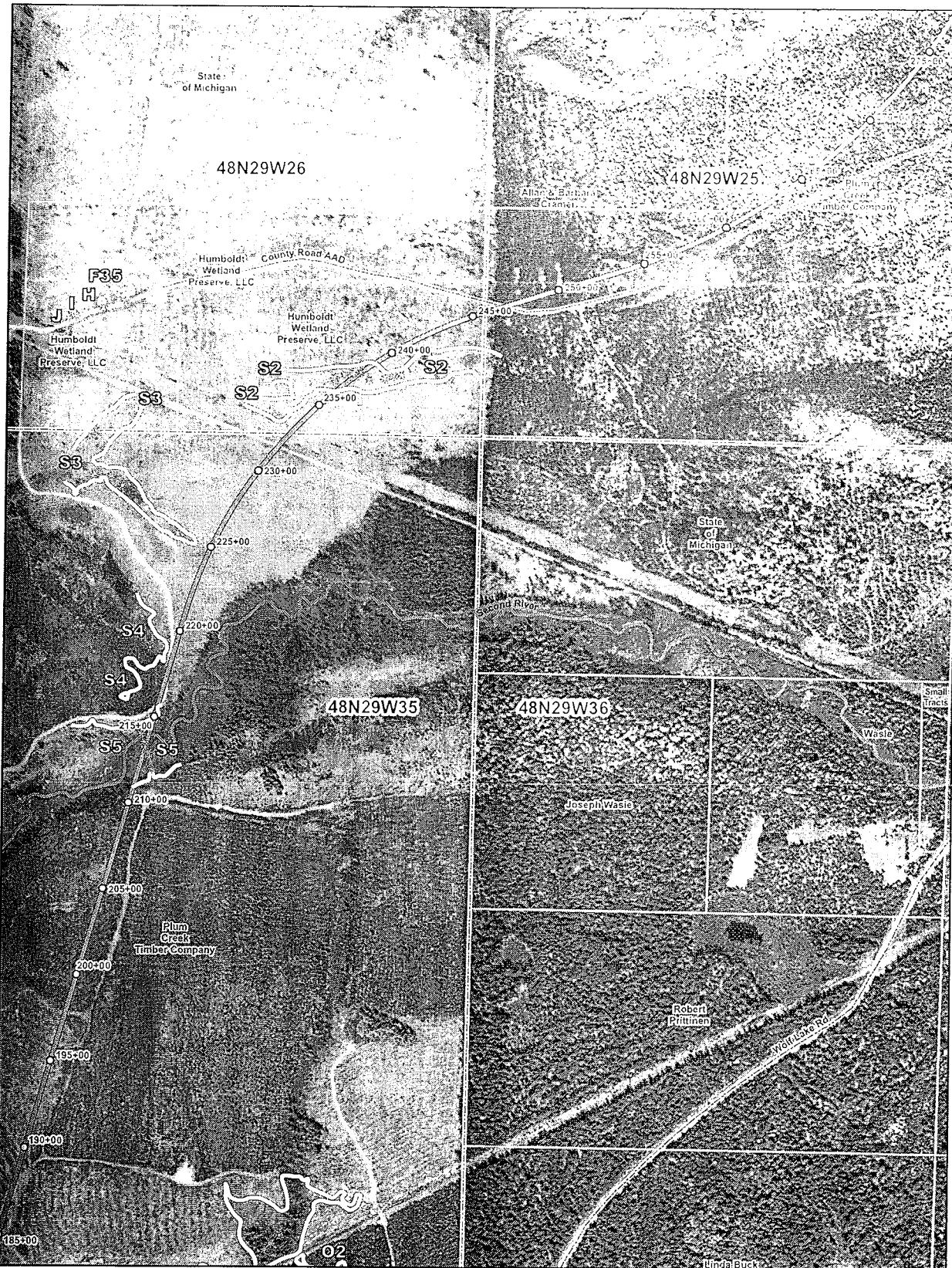
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Legend	
Woodland Road	Property Owner Mrqt. Co. Plat
Wetland Delineation	PLSS Sections
River	Peat Probes
D1	Wetland Area Designation
	O Alignment Station

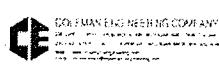




Woodland Road LLC

Wetland Delineation Map

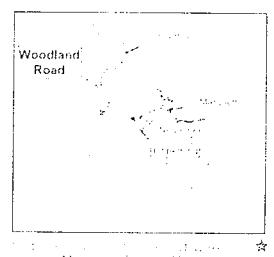
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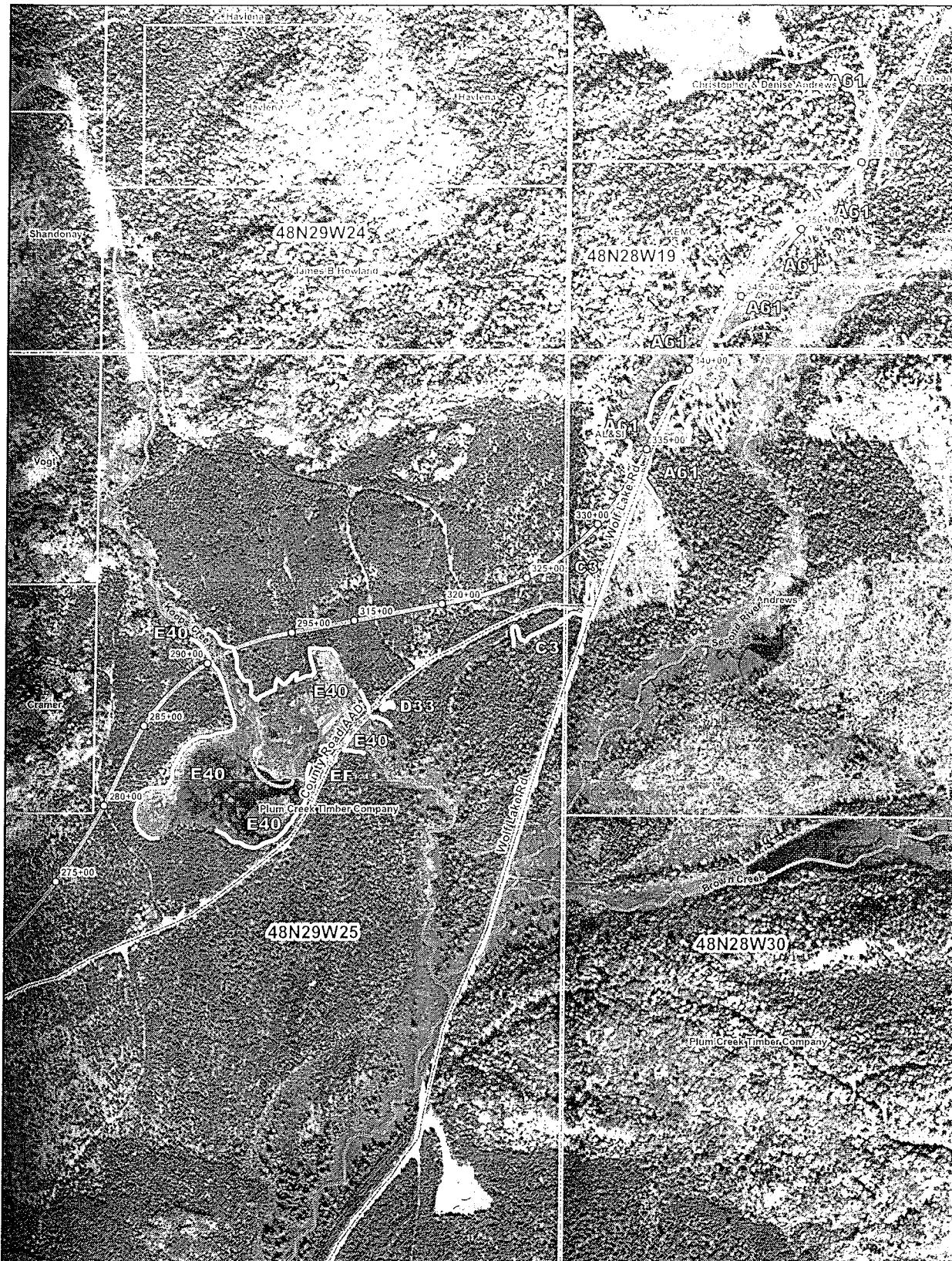


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Wetland Delineation	50N29W14	PLSS Sections	
River	#	Peat Probes	
D1	Wetland Area Designation	O	Alignment Station





Woodland Road LLC

Wetland Delineation Map

Woodland Road



COLEMAN ENGINEERING, INC.
MICHIGAN PLATINUM SURVEYORS
AND LAND PLANNERS
SINCE 1914
LANDSCAPE ARCHITECTURE



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Scale: 1:24,000

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Legend

Woodland Road Property Owner Mrqt. Co. Plat

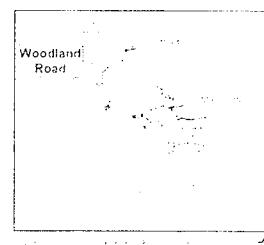
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River Peat Probes

D1

Wetland Area Designation

O Alignment Station





Woodland Road LLC

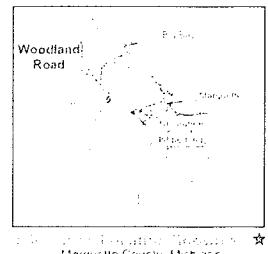
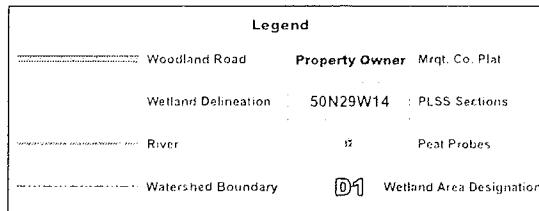
Wetland Delineation Map

Woodland Road



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Woodland Road LLC

Wetland Delineation Map

Wooland Road



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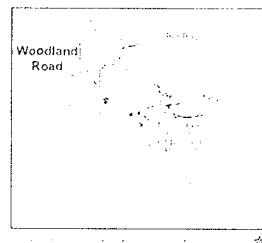
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Watershed B

D1 Wetland Area Designation





Woodland Road LLC

Wetland Delineation Map

Woodland Road



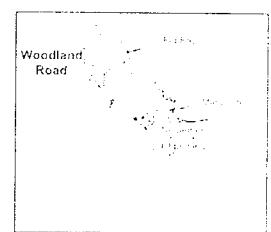
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Legend

Woodland Road	Property Owner	Mrqt. Co. Plat
Wetland Delineation	50N29W14	PLSS Sections
Watershed Boundary		Peat Probes
County Road	D1	Welland Area Designation





Woodland Road LLC

Wetland Delineation Map

Woodland Road



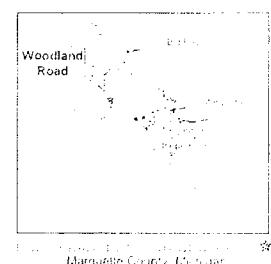
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Legend

Woodland Road	Property Owner	Mrqt. Co. Plat
Wetland Delineation	50N29W14	PLSS Sections
River	Peat Probes	
Watershed Boundary	D1	Wetland Area Designation





Woodland Road LLC

Wetland Delineation Map

Woodland Road



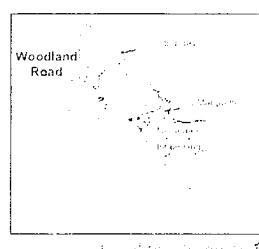
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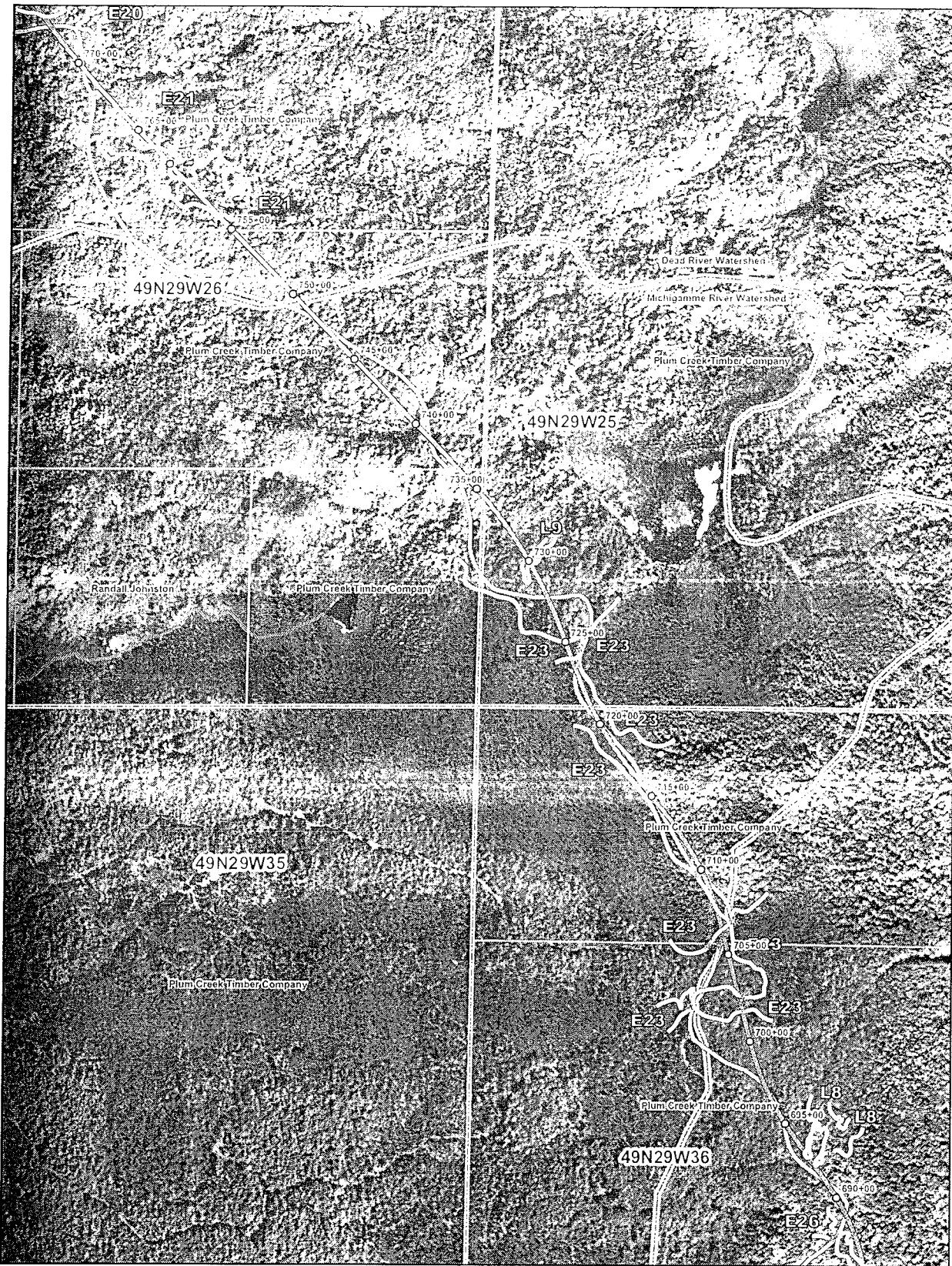


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Trail S	50N29W14	PLSS Sections
Wetland Delineation	5	Peat Probes
Watershed Boundary	D1	Wetland Area Designation





Woodland Road LLC

Wetland Delineation Map

Woodlane Road



CO. OF THE
WILDERNESS
SOCIETY
Since 1902
Protecting
the Land
and Water
for All People



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July 13, 2009

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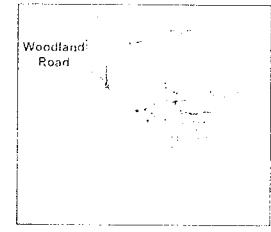
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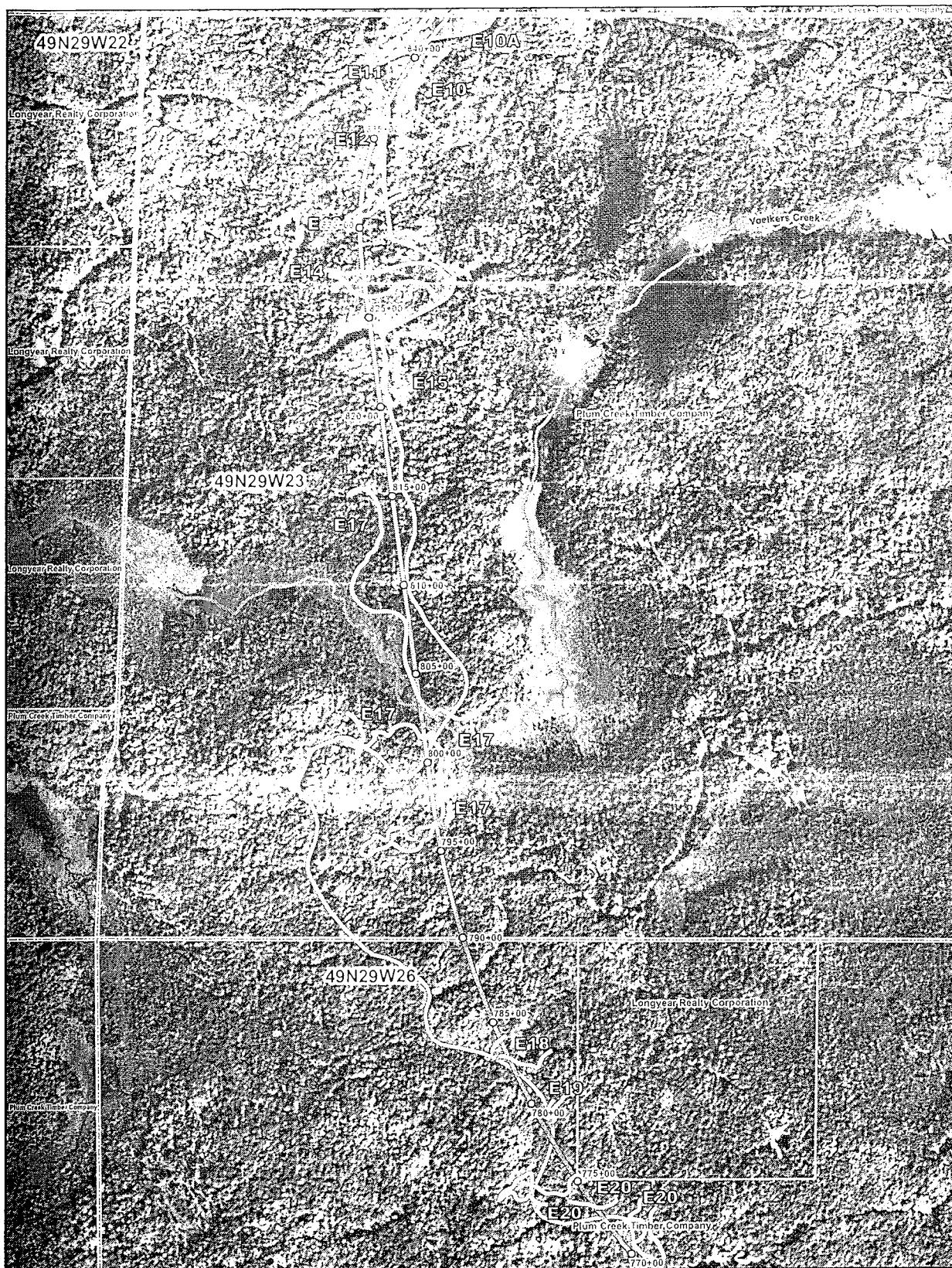
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Wetland Delineation Peat Probes

Watershed Boundary D1 Wetland Area Designation



Map is not to scale. 1" = 1/2 mile.



Woodland Road LLC

Wetland Delineation Map

Map Sheet 1 of 17



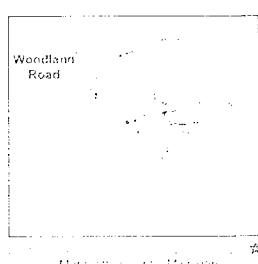
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Environmental Services
Engineering
Planning
Marketing

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Woodland Road	Property Owner	Min. Co. Plat
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Wetland Delineation	O	Alignment Station
Peat Probes	D1	Wetland Area Designation





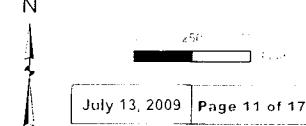
Woodland Road LLC

Wetland Delineation Map

Woodland Road

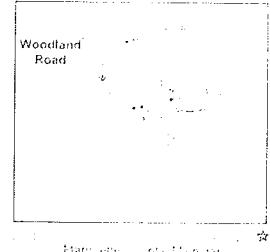


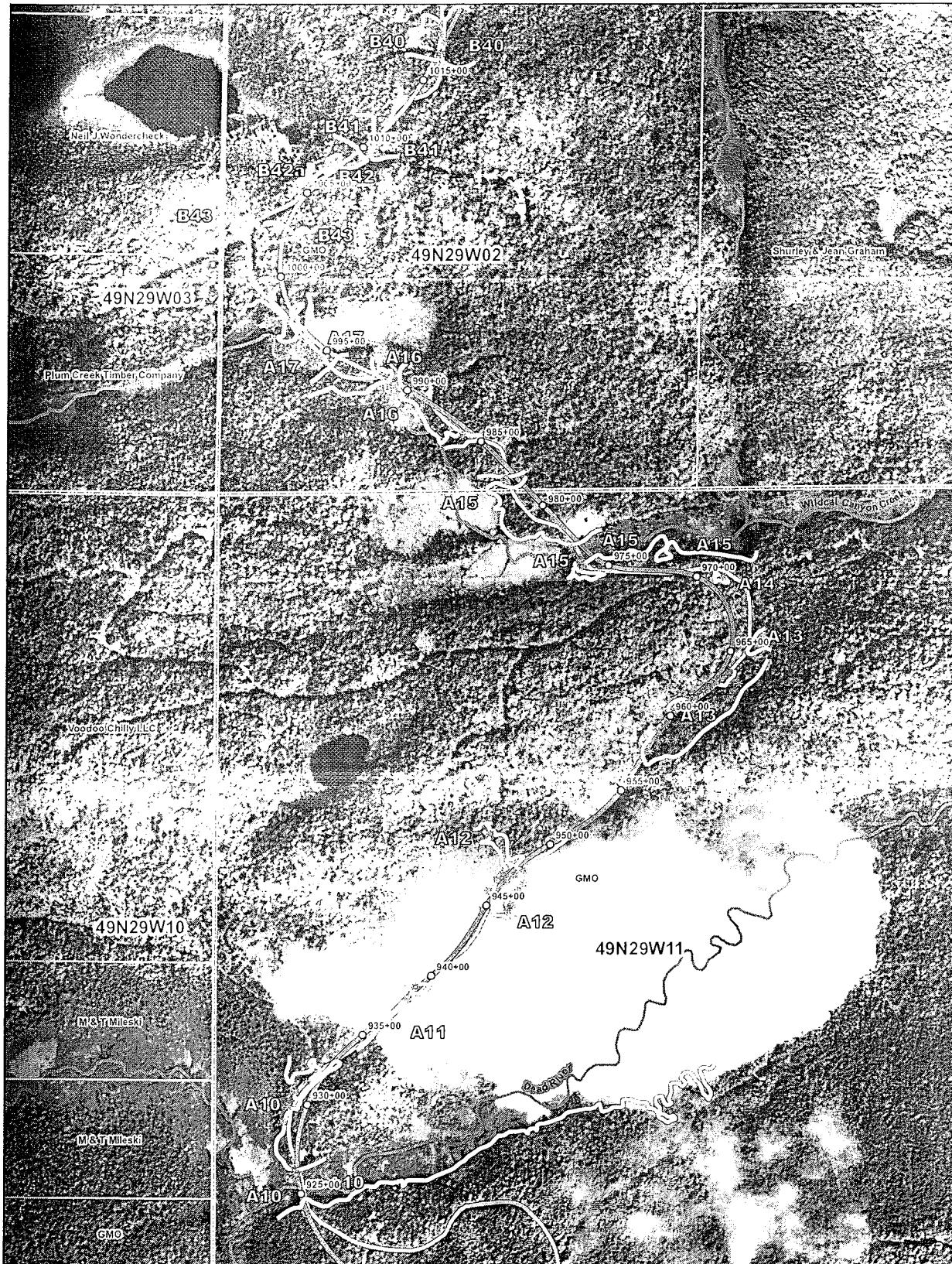
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Legend			
Woodland Road	Property Owner	Mrql. Co. Plat	
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Road River			D1 Wetland Area Designation





Woodland Road LLC

Wetland Delineation Map

Woodland Road

Legend

Woodland Road Property Owner Mrqt. Co. Plat

Trail S

PLSS Sections

Wetland Delineation

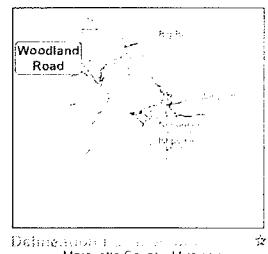
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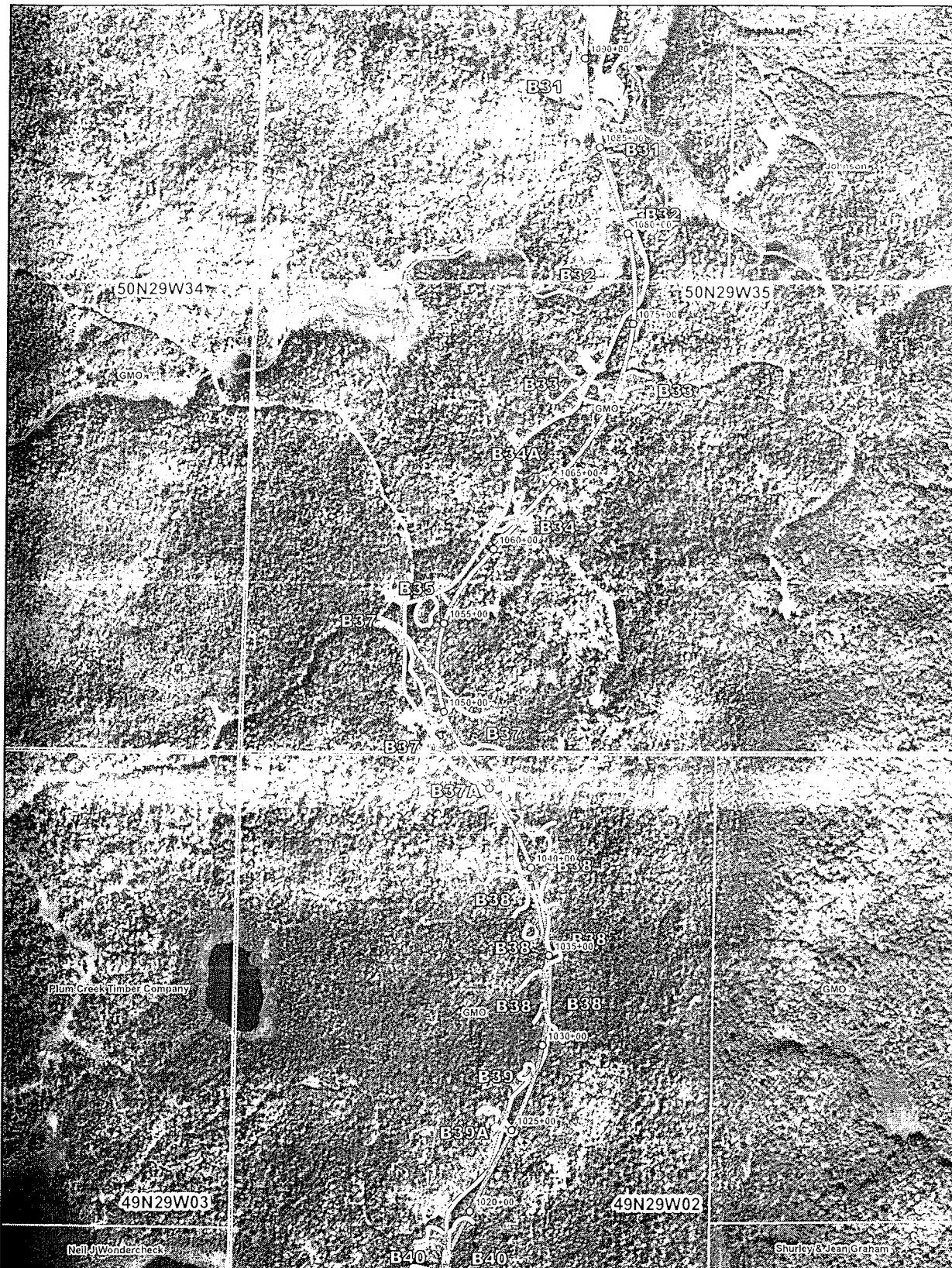
D1 Wetland Area Designation



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Marquette County, Michigan



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Wetland Delineation Map

Woodland Road



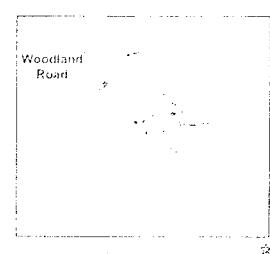
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Land Surveyors

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Legend	
Woodland	Property Owner Mrqt. Co. Plat
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O	Alignment Station
D1	Wetland Area Designation





Woodland Road LLC

Wetland Delineation Map

Woodland Road



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Trail S 50N29W14 PLSS Sections

Wetland Delineation Peat Probes

Watershed Boundary D1 Wetland Area Designation

Woodland
Road

Mackinac County, Michigan



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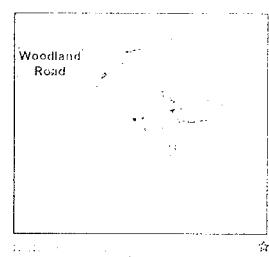
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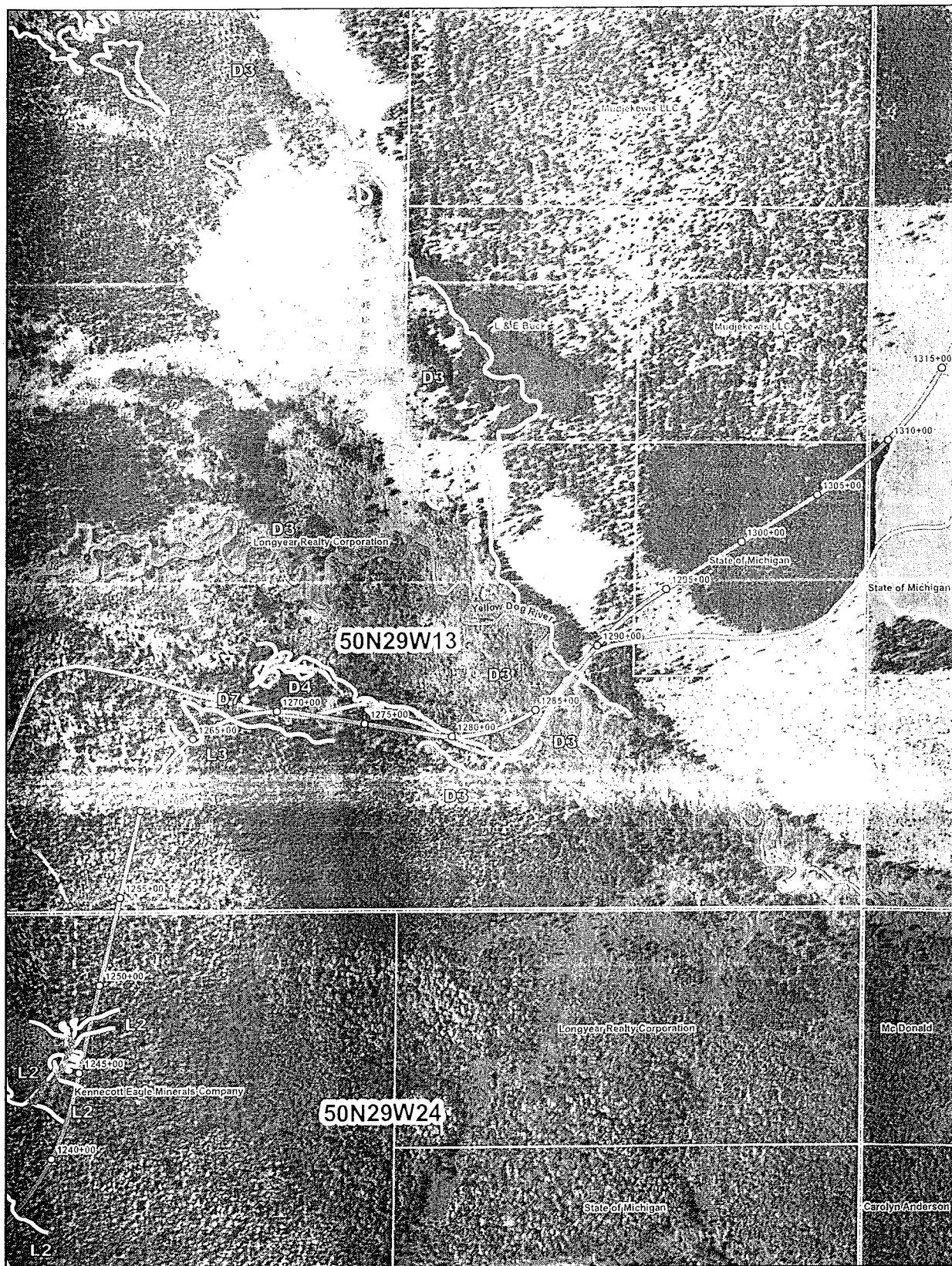


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Legend		
North Access Road	Property Owner	Mrq. Co. Plat
Trail S	PLSS Sections	
Wetland Delineation		Peat Probes
Watershed Boundary	D1	Wetland Area Designation





Woodland Road LLC Wetland Delineation Map

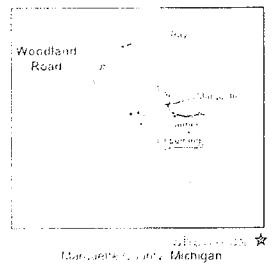
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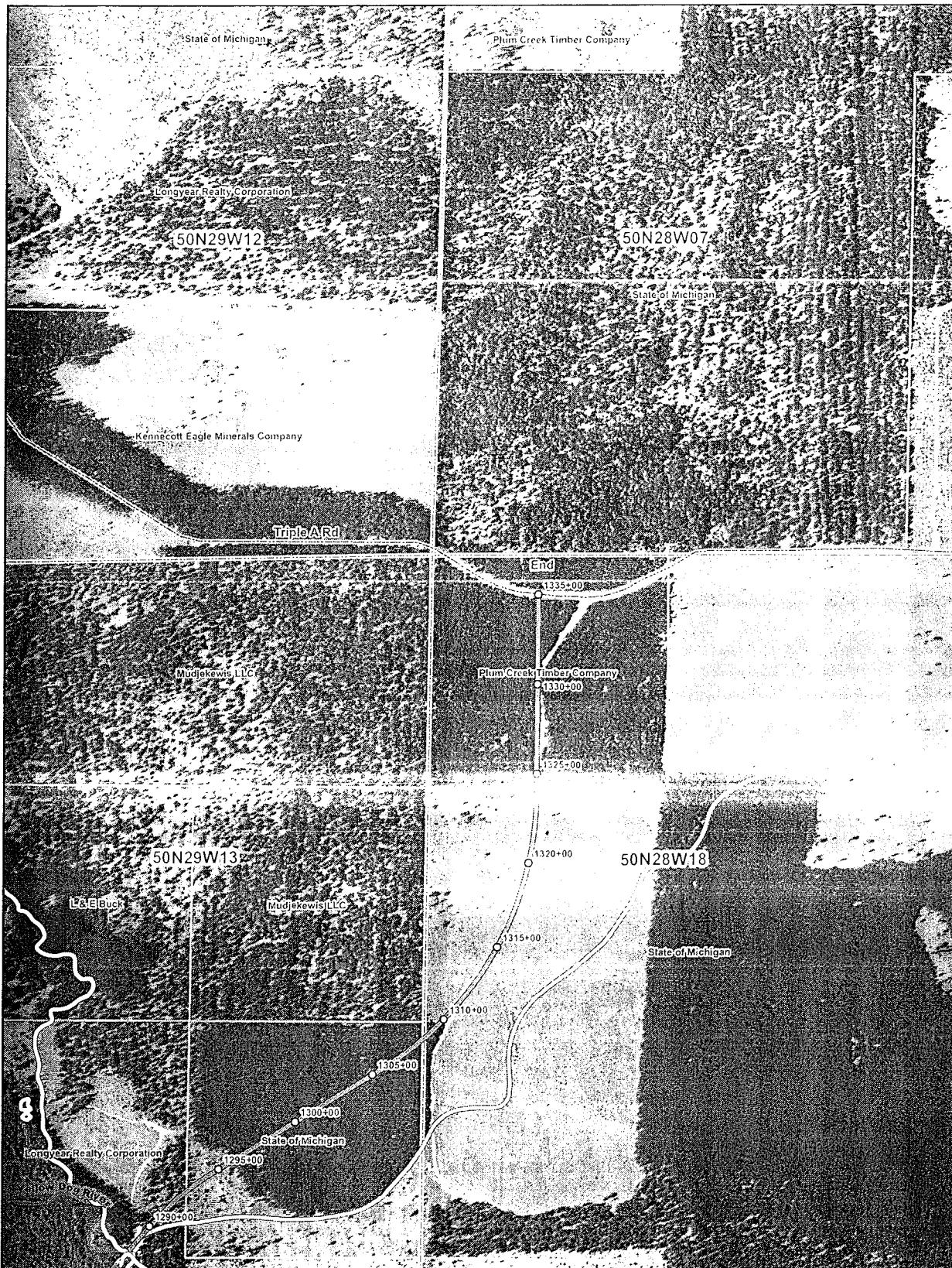


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Legend	
Woodland Road	Property Owner Mgt. Co. Plat
Trail 5	50N29W14 PLSS Sections
Wetland Delineation	Peat Probes
O Alignment Station	D1 Wetland Area Designation





Woodland Road LLC

Wetland Delineation Map

Woodland Road



COOPERATIVE SURVEYING INC.
LAND SURVEYORS • ENGINEERS
GENERAL CONTRACTORS



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0 200 400 feet

July 13, 2009 Page 17 of 17

Legend

Woodland Road Property Owner Mrqt. Co. Plat

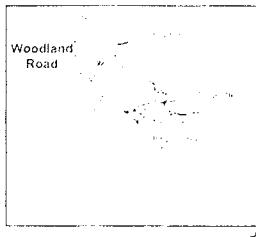
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Wetland Delineation

Peat Probes

County Road

D1 Wetland Area Designation



Marquette County, Michigan

Rec'd 5/26/2011

SECTION 10A, 10B, & 12: WETLAND IMPACT

Rev. 04: 10/27/2009

DESCRIPTION AND LOCATION		PROJECTS REQUIRING FILL						PROJECTS REQUIRING EXCAVATION						ACTIVITIES THAT MAY IMPACT WETLANDS						
WATERBODY DESIGNATION	STATION SECTION	WETLAND NAME	WATERBODY NAME	AVAIL. LENGTH (FT)	MAX. FILL DEPTH (FT)	TOTAL HULL VOLUME (CFY)	MAX. DEPTH BELOW DRAWDOWN (FT)	AVE EXC. WIDTH (FT)	AVE EXC. LENGTH (FT)	TOTAL EXC. VOLUME (CFY)	MAX. DEPTH BELOW DRAWDOWN (FT)	MAX. LENGTH FILL WIDTH (FT)	EXCAV. AREA (SF)	AVE FILL DEPTH (FT)	EXCAV. VOLUME (CFY)	MAX. DEPTH BELOW DRAWDOWN (FT)	MAX. LENGTH FILL WIDTH (FT)	EXCAV. AREA (SF)	AVE FILL DEPTH (FT)	EXCAV. VOLUME (CFY)
R4	137225	W-MR5-1	Excaliber	SS	216	10	4.8	152	N/A	216	10	1.0	80	N/A	260	20	2,157	1.0	80	1.52
R5	137225	W-MR5-1	Excaliber	SS	160	20	2.7	379	N/A	160	20	1.0	118	N/A	280	30	3,198	1.0	118	3.79
R4	149225	W-MR5-1	Excaliber	EM	134	10	5.1	154	N/A	134	10	1.2	60	N/A	135	14	1,339	1.2	60	1.54
R6	149225	W-MR5-1	Excaliber	EM/SS	98	5	2.7	31	N/A	98	5	1.2	21	N/A	98	8	466	1.2	18	21
R4	148675	W-MR1	Excaliber	EM	151	3	1.0	13	N/A	151	3	0.5	6	N/A	180	4	452	0.5	0.8	8
R1	158400	W-R1-1	Excaliber	EM/SS	225	77	11.1	4,452	18	225	77	1.5	968	80	220	92	17,422	1.5	70	958
R1	163350	W-R1-2	Excaliber	EM/SS	470	75	11.4	10,923	26	470	75	3.3	4,272	79	485	88	35,316	3.3	83	4,272
S1	170425	W-S1-1	Excaliber	PO/EM	55	26	5.4	184	N/A	55	26	0.5	27	N/A	71	34	1,438	0.5	3.5	27
R2	170425	W-R2-1	Excaliber	EM	41	7	2.9	22	N/A	41	7	0.8	9	N/A	51	9	305	0.8	2.1	9
R3	171483	W-R3-1	Excaliber	EM	32	7	7.2	41	N/A	32	7	3.9	32	N/A	45	8	214	3.9	32	41
R86	178425	W-R86-1	Excaliber	EM	98	42	12.8	1,285	N/A	98	42	0.5	68	N/A	104	51	3,893	0.5	9.9	68
S5	212550	W-S5-1	Excaliber	SS	283	82	14.6	8,864	42	283	82	3.5	3,001	56	287	86	23,152	3.5	103	3,001
S5	214650	W-S5-2	Excaliber	SS	157	49	9.5	1,774	33	157	49	0.9	268	44	164	70	7,621	0.9	62	258
S2	237480	W-S2-1	Excaliber	SS	251	59	5.4	2,121	N/A	251	59	0.5	273	N/A	272	60	14,846	0.5	3.9	273
E40	250041	W-40-1	Excaliber	EM/SS	48	72	12.3	1,030	0	48	72	0.5	64	0	58	72	3,456	0.5	80	64
E40	259423	W-40-2	Excaliber	EM/SS	81	67	11.3	1,556	0	61	67	1.0	197	0	86	74	5,350	1.0	77	197
C3	328550	W-C3-1	Excaliber	PO/SS	112	7	1.7	9	N/A	112	7	2.0	59	N/A	124	12	733	2.0	0.3	59
A61	334440	W-A61-1	Excaliber	PO/SS	217	39	9.9	2,002	N/A	217	39	2.4	745	N/A	229	52	8,475	2.4	64	745
A61	340450	W-A61-2	Excaliber	PO/SS	349	24	7.6	1,387	1	349	24	1.3	409	1	407	28	8,287	1.3	4.5	409
A61	344450	W-A61-3	Excaliber	PO/SS	256	36	6.3	1,574	4	256	36	1.8	620	1	492	52	9,327	1.8	4.6	620
A61	347440	W-A61-4	Excaliber	PO/SS	1065	41	6.2	6,654	38	1,065	41	0.5	888	22	1134	67	44,047	0.5	3.9	888
A60	377483	W-460-1	Excaliber	PO/EM	416	61	8.6	5,381	N/A	416	61	1.5	1,399	N/A	447	75	23,325	1.5	5.7	1,399
A58	359400	W-A58-1	Excaliber	PO/SS	376	55	12.6	5,025	N/A	376	55	1.6	1,213	N/A	496	61	20,588	1.6	6.7	1,213
A58	403450	W-A58-2	Excaliber	PO/SS	144	76	25.4	6,755	N/A	144	76	15.9	5,616	N/A	145	82	10,940	13.9	16.7	5,616
A58	405475	W-A58-3	Excaliber	PO/SS	73	62	15.9	1,650	N/A	73	62	3.9	633	N/A	80	65	4,532	3.9	9.8	633
A57	413450	W-A57-1	Excaliber	PO/EM	68	41	10.7	808	N/A	68	41	0.8	83	N/A	82	42	2,799	0.8	7.8	83
A56	418400	W-A56-1	Excaliber	EM	29	11	6.8	65	N/A	29	11	3.0	36	N/A	30	11	304	3.0	5.5	36
A56	418495	W-A56-2	Excaliber	EM	105	71	17.0	3,096	N/A	105	71	1.0	273	N/A	113	78	7,467	1.0	11.2	7,467
A56	419400	W-A56-3	Excaliber	PO/SS	95	17	9.4	166	N/A	95	17	0.5	30	N/A	124	19	1,624	0.5	2.8	30
A54	454420	W-A53-1	Excaliber	PO/EM	502	50	9.2	5,031	N/A	502	50	1.7	1,621	N/A	608	70	25,338	1.7	54	1,621
A52	457450	W-A53-2	Dead	PO/SS	101	42	8.8	856	N/A	101	42	1.4	214	N/A	104	48	4,265	1.4	5.5	214
A54	456450	W-A54-3	Dead	PO/SS	398	35	12.6	3,231	N/A	398	35	3.1	1,589	N/A	411	39	13,752	3.1	6.2	1,589
A53	463450	W-A53-1	Dead	PO/SS	465	30	30	8,5	N/A	465	30	1.6	1,230	N/A	509	36	13,950	1.6	6.5	13,950
A53	445450	W-A53-2	Dead	PO/SS	152	21	6.2	178	N/A	152	21	1.7	106	N/A	182	14	1,625	1.7	2.9	1,625
A53	454420	W-A53-3	Dead	PO/EM	153	50	8.0	1,524	19	153	50	1.6	1,565	2	186	73	7,622	1.6	54	1,565
A59	502455	W-A49-1	Dead	PO	160	47	10.9	1,939	N/A	160	47	0.5	140	N/A	171	57	1,556	0.5	40	1,556
A59	506450	W-A49-2	Dead	PO	52	22	2.1	41	N/A	76	22	0.9	57	N/A	87	35	1,695	0.9	0.7	57
F5	466450	W-F5-1	Dead	EM	133	42	1.7	108	N/A	133	42	3.0	613	N/A	179	64	5,633	3.0	0.5	611
C2	466460	W-C2-1	Dead	SS	370	96	35.4	26,987	N/A	370	96	8.6	11,566	N/A	376	105	36,110	8.6	196	36,110
B44	494450	W-B44-2	Excaliber	PO/EM	153	50	8.0	1,524	19	153	50	1.6	1,565	2	186	73	7,622	1.6	54	1,565
B49	507450	W-A49-3	Dead	PO	160	47	10.9	1,939	N/A	160	47	0.5	140	N/A	171	57	1,556	0.5	40	1,556
B49	508450	W-A49-2	Dead	PO	52	22	4.3	124	N/A	52	22	0.5	21	N/A	53	25	1,141	0.5	2.9	21
B49	507475	W-A49-3	Dead	PO	177	63	7.0	1,886	N/A	177	63	0.5	202	N/A	186	67	11,085	0.5	4.6	202
B50	517475	W-H50-1	Dead	PO/EM	171	72	17.3	4,725	N/A	171	72	0.5	228	N/A	185	103	12,263	0.5	104	228

SECTION 10A, 10B, & 12: WETLAND IMPACT

WETLAND IMPACT DESCRIPTION AND LOCATION		PROJECTS REQUIRING FILL										PROJECTS REQUIRING EXCAVATION										WETLAND RESTORATION	
WETLAND NAME	STATION	CROSS SECTION	WETLAND TYPE	WATER DEPTH (FT)	MAX ETC DEPTH (FT)	TOTAL FILL VOLUME (CF)	FCY VOLUME BELOW GROUT (CF)	AVE ETC DEPTH (FT)	AVE ETC WIDTH (FT)	TOTAL ETC VOLUME (CF)	FCY VOLUME BELOW GROUT (CF)	MAX ETC DEPTH (FT)	FCY VOLUME BELOW GROUT (CF)	AVE ETC DEPTH (FT)	AVE ETC WIDTH (FT)	EXCAV. AREA (SF)	EXCAV. FALL WIDTH (FT)	AVE ETC DEPTH (FT)	TOTAL ETC VOLUME (CF)	TOTAL FILL VOLUME (CF)	TOTAL ETC VOLUME (CF)	WETLAND AREA (SF)	
B50	510+60	W-E50-2	Dead	FO/EM	116	92	159	3,876	N/A	116	92	0.5	152	N/A	128	103	10,685	0.5	9,8	192	3,876	538	
B51	524+75	W-E51-1	Dead	FO	97	32	73	558	N/A	97	32	1.5	178	N/A	103	63	3,060	1.5	4.9	178	538	23	
M48	525+75	W-A48-1	Dead	EM	41	28	31	23	N/A	41	28	0.5	23	N/A	56	59	1,165	0.5	0.5	23	1,165	23	
M49	529+10	W-A49-1	Dead	FO	62	94	125	1,776	N/A	62	94	1.0	211	N/A	76	59	5,829	1.0	8.0	211	1,776	211	
M43	533+90	W-A43-1	Dead	EM	47	40	5.7	260	N/A	47	40	0.5	35	N/A	51	48	1,958	0.5	3.7	95	260	4169	
M42	538+10	W-A42-1	Dead	FO/SS	334	136	42.9	38,739	N/A	334	136	5.3	8,846	N/A	343	157	45,474	5.3	23.0	8,846	38,739	304	
M41	543+70	W-A41-1	Dead	FO/EM	168	84	20.1	6,623	N/A	168	84	1.0	518	N/A	176	104	14,115	1.0	12.7	518	6,623	104	
F18	553+65	W-F18-1	Dead	FO/EM	77	46	14.0	1,537	N/A	77	46	0.5	66	N/A	87	52	3,545	0.5	11.7	66	1,537	52	
A37	561+95	W-A37-1	Dead	FO	124	83	15.5	4,169	N/A	124	83	2.0	753	N/A	130	102	10,301	2.0	10.9	753	4,169	102	
A36	568+50	W-A36-1	Dead	FO	59	16	1.1	30	2	59	16	1.0	36	2	80	16	916	1.0	0.9	36	30	30	
A25	612+80	W-A25-1	Dead	EM	57	46	5.4	344	15	57	0.5	45	5	92	48	2,662	0.5	3.5	45	344	2,662		
F25	638+50	W-F25-1	Dead	EM	41	27	11.9	332	N/A	41	27	0.5	21	N/A	43	33	1,122	0.5	8.1	21	332	33	
P1	640+00	W-P1-1	Dead	EM	38	15	4.5	50	N/A	38	15	0.3	7	N/A	39	16	585	0.3	2.4	7	50	50	
P2	667+50	W-P2-1	Dead	EM	106	7	14.1	330	N/A	106	7	0.6	17	N/A	113	9	760	0.6	11.8	17	330	330	
P3	669+75	W-P3-1	Dead	EM	20	43	.9.7	346	N/A	20	43	0.4	12	N/A	21	53	848	0.4	4.6	12	146	146	
E27	689+25	W-E27-1	Dead	EM/SS	25	76	7.5	278	N/A	25	76	0.4	31	N/A	35	110	1,907	0.4	4.0	31	278	110	
E26	685+90	W-E26-1	Dead	FO/EM	91	52	11.3	1,040	N/A	91	52	1.0	171	N/A	99	81	4,745	1.0	5.9	171	1,040	81	
I8	692+25	W-I8-1	Dead	FO	24	29	1.7	34	N/A	24	29	2.4	61	N/A	34	37	687	2.4	13	61	34	34	
I8	693+00	W-I8-2	Dead	FO	61	25	1.7	30	N/A	61	25	1.9	110	N/A	70	30	1,508	1.9	0.5	110	30	30	
E23	702+30	W-E23-1	Dead	FO/SS	345	74	30.2	7,247	N/A	345	74	6.8	2,980	N/A	354	113	10,707	6.8	18.2	2,980	7,247	107	
E33	705+00	W-E23-2	Dead	FO/SS	53	11	7.4	44	N/A	53	11	0.5	10	N/A	70	13	566	0.5	2.0	10	44	10	
E23	706+75	W-E23-3	Wet/Humid	FO/SS	219	41	9.5	1,572	3	219	41	1.0	324	3	297	68	8,999	1.0	4.7	324	1,572	1,572	
E23	717+60	W-E23-4	Wet/Humid	FO/SS	314	17	6.7	855	N/A	314	17	2.6	513	N/A	363	20	5,238	2.6	4.3	533	855	20	
E23	723+50	W-E23-5	Wet/Humid	FO/SS	95	10	6.8	342	N/A	95	10	2.3	81	N/A	107	12	956	2.3	4.0	81	142	142	
E23	724+50	W-E23-6	Wet/Humid	FO/SS	105	86	16.7	3,820	N/A	105	86	3.7	1,250	N/A	118	88	9,027	3.7	11.4	1250	3,820	88	
I9	730+00	W-I9-1	Wet/Humid	FO	109	41	11.6	348	N/A	109	41	0.5	80	N/A	112	90	4,507	0.5	0.9	80	148	148	
E21	757+40	W-E21-1	Dead	FO/EM	250	70	8.4	3,865	N/A	250	70	1.9	1,231	N/A	266	74	17,415	1.9	6.0	1,231	3,865	74	
E21	763+35	W-E21-2	Dead	FO/EM	165	54	5.6	867	N/A	165	54	0.8	263	N/A	174	66	8,956	0.8	2.7	66	8,956	66	
E17	786+50	W-E17-1	Dead	FO/EM	44	57	17.2	788	4	44	57	1.7	157	2	38	865	0.5	3.2	157	788	1,193		
E21	785+25	W-E21-3	Dead	FO/EM	286	46	8.8	3,085	62	286	46	1.7	825	12	218	65	13,268	1.7	6.3	825	3,085	12	
E20	774+00	W-E20-1	Dead	FO/EM	209	60	5.9	1,974	N/A	209	60	1.0	471	N/A	218	65	12,565	1.0	4.3	471	1,974	65	
E19	778+90	W-E19-1	Dead	FO	37	5	2.5	9	N/A	37	5	0.4	3	N/A	46	6	184	0.4	1.3	3	9	9	
E18	783+35	W-E18-1	Dead	FO	182	80	21.3	6,934	N/A	182	80	0.5	182	N/A	191	127	14,571	0.5	12.9	268	6,934	127	
E17	802+00	W-E17-2	Dead	FO/EM	83	11	52	1,230	N/A	83	11	0.5	17	N/A	110	14	894	0.5	2.1	17	70	70	
E17	807+90	W-E17-3	Dead	FO/EM	83	11	37	44	345	N/A	105	37	0.5	71	N/A	116	46	4,812	0.5	6.9	87	1,230	46
E15	821+00	W-E15-1	Dead	EM	56	5	1.7	18	N/A	56	5	3.9	40	N/A	63	9	284	3.9	1.7	40	18	18	
E14	827+00	W-E14-1	Dead	FO	132	95	19.8	6,388	N/A	132	95	2.5	1,286	N/A	134	97	12,532	2.5	13.8	12,532	6,388	97	
E13	830+65	W-E13-1	Dead	FO	63	76	22.4	1,230	N/A	63	76	0.5	87	N/A	68	81	4,812	0.5	6.9	87	1,230	81	
E12	835+90	W-E12-1	Dead	EM	105	37	4.4	345	N/A	105	37	0.5	71	N/A	116	48	3,839	0.5	2.4	71	345	48	
E10	838+20	W-E10-1	Dead	FO	24	3	1.3	5	N/A	24	3	1.5	4	N/A	30	5	79	1.5	1.9	40	5	5	
E10	840+30	W-E10-2	Dead	FO	54	51	52	394	N/A	54	51	0.5	51	N/A	80	62	2,771	0.5	3.9	51	394	62	

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SECTION 10B

SECTION 12

ACTIVITIES THAT MAY IMPACT WETLANDS

PROJECTS REQUIRING EXCAVATION

PROJECTS REQUIRING FILL

WETLAND RESTORATION

WETLAND IMPACT

WETLAND DESCRIPTION AND LOCATION

WETLAND NAME

WETLAND STATION

WETLAND CROSS SECTION

WETLAND TYPE

WETLAND RESTORATION

WETLAND AREA (SF)

WETLAND TOTAL FILL VOLUME (CF)

WETLAND TOTAL ETC VOLUME (CF)

WETLAND AVE ETC DEPTH (FT)

WETLAND MAX ETC DEPTH (FT)

WETLAND FCY VOLUME BELOW GROUT (CF)

WETLAND FCY VOLUME BELOW GROUT (CF)

WETLAND AVG ETC WIDTH (FT)

WETLAND EXCAV. AREA (SF)

WETLAND RESTORATION

WETLAND AREA (SF)

WETLAND TOTAL FILL VOLUME (CF)

WETLAND TOTAL ETC VOLUME (CF)

WETLAND AVE ETC DEPTH (FT)

WETLAND MAX ETC DEPTH (FT)

WETLAND FCY VOLUME BELOW GROUT (CF)

WETLAND FCY VOLUME BELOW GROUT (CF)

WETLAND AVG ETC WIDTH (FT)

WETLAND EXCAV. AREA (SF)

WETLAND RESTORATION

WETLAND AREA (SF)

WETLAND TOTAL FILL VOLUME (CF)

WETLAND TOTAL ETC VOLUME (CF)

WETLAND AVE ETC DEPTH (FT)

WETLAND MAX ETC DEPTH (FT)

WETLAND FCY VOLUME BELOW GROUT (CF)

WETLAND FCY VOLUME BELOW GROUT (CF)

WETLAND AVG ETC WIDTH (FT)

WETLAND EXCAV. AREA (SF)

WETLAND RESTORATION

WETLAND AREA (SF)

WETLAND TOTAL FILL VOLUME (CF)

WETLAND TOTAL ETC VOLUME (CF)

WETLAND AVE ETC DEPTH (FT)

WETLAND MAX ETC DEPTH (FT)

WETLAND FCY VOLUME BELOW GROUT (CF)

WETLAND FCY VOLUME BELOW GROUT (CF)

WETLAND AVG ETC WIDTH (FT)

WETLAND EXCAV. AREA (SF)

WETLAND RESTORATION

WETLAND AREA (SF)

WETLAND TOTAL FILL VOLUME (CF)

WETLAND TOTAL ETC VOLUME (CF)

WETLAND AVE ETC DEPTH (FT)

WETLAND MAX ETC DEPTH (FT)

WETLAND FCY VOLUME BELOW GROUT (CF)

WETLAND FCY VOLUME BELOW GROUT (CF)

WETLAND AVG ETC WIDTH (FT)

WETLAND EXCAV. AREA (SF)

WETLAND RESTORATION

WETLAND AREA (SF)

WETLAND TOTAL FILL VOLUME (CF)

SECTION 10A, 10B, & 12: WETLAND IMPACT

WETLAND IMPACT

DESCRIPTION AND LOCATION

Rev. Date: 10/27/2009

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WETLAND LOCATION	CROSS SECTION	WETLAND NAME	WATER LEVEL (FT)	AVERAGE WATER LEVEL (FT)	AVERAGE WATER LEVEL (FT)	TOTAL FILL VOLUME (CU YD)	FILL VOLUME BELOW GRAVITY (CU YD)	AVE EXC. WIDTH (FT)	AVE EXC. DEPTH (FT)	TOTAL EXC. VOLUME (CU YD)	MAX EXC. LENGTH (FT)	MAX EXC. WIDTH (FT)	EXCAV. AREA (SF)	EXC & FILL AREA (SF)	AVE EXC. DEPTH (FT)	AVE FILL DEPTH (FT)	TOTAL EXC. VOLUME (CU YD)	TOTAL FILL VOLUME (CU YD)			
E2	8454+20	W-E2-1	Dead	FO/EM	122	67	12.2	2,850	N/A	321	87	10	386	N/A	10,350	1.0	7.3	3,86	2,850		
E3	846+70	W-E3-1	Dead	FO	57	67	13.4	1,147	N/A	57	67	32	447	N/A	60	89	3.2	8.1	447	1,147	
E5	855+75	W-E5-1	Dead	EM	28	4	2.2	6	N/A	28	4	0.5	2	N/A	29	5	0.5	1.4	2	6	
E5	857+50	W-E5-1	Dead	FO/EM	179	27	19	302	N/A	179	27	10	176	N/A	184	29	4,918	1.0	1.7	3,03	
E4	861+72	W-E4-1	Dead	EM	37	11	5.1	71	N/A	37	13	0.5	8	N/A	42	13	421	0.5	4.7	8	71
E2	877+66	W-E2-1	Dead	FO/SS	279	62	9.7	4,716	N/A	279	62	1.5	953	N/A	299	74	17,280	1.5	7.4	953	4,480
E2	889+47	W-E2-2	Dead	FO/SS	427	50	10	4,876	N/A	427	50	2.7	2,134	N/A	458	64	21,265	2.7	6.2	2,134	4,876
E1	888+16	W-E1-1	Dead	FO	192	23	10.3	1,104	N/A	192	23	3.4	552	N/A	236	51	4,908	3.4	6.8	552	1,104
E1	891+00	W-E1-2	Dead	FO	236	56	14.7	4,802	N/A	236	56	3.5	1,795	N/A	243	60	13,279	3.5	9.8	1,795	4,802
AAB	901+00	WAAB-1	Dead	FO	292	72	9.2	5,376	N/A	292	72	2.5	1,940	N/A	311	78	21,210	2.5	6.9	1,940	5,376
AAB	904+69	WAAB-2	Dead	FO	19	37	1.7	55	N/A	19	37	12.5	326	N/A	24	38	706	12.5	2.1	326	55
AAB	905+50	WAAB-3	Dead	FO	97	121	1.7	333	N/A	97	121	13.5	5,856	N/A	145	143	11,662	13.5	0.8	5,856	333
A7	915+00	WAAT-1	Dead	FO/SS	231	71	7.5	2,591	N/A	231	71	0.5	2,83	N/A	237	88	16,569	0.5	4.3	283	2,591
A10	928+81	WAAB-1	Dead	EM/SS	64	82	18.1	2,051	S3	64	82	2.0	384	S4	93	93	1,165	2.0	10.6	384	2,051
A10	926+56	WAAD-2	Dead	EM/SS	81	97	24.6	3,734	S0	81	97	3.1	910	S4	110	115	7,897	3.1	12.8	910	3,734
A10	933+50	WAAD-3	Dead	EM/SS	244	40	28.3	4,586	N/A	244	40	0.5	174	N/A	361	113	9,775	0.5	12.6	174	4,586
A11	938+00	WAAB-1	Dead	FO	227	31	5.1	786	N/A	227	31	12	316	N/A	394	67	6,991	12	3.0	316	786
A12	947+56	WAAD-2	Dead	FO	207	98	25.5	9,882	N/A	207	98	1.9	1,440	N/A	287	135	20,205	1.9	14.0	9,882	7,472
A13	958+00	WAAD-1	Dead	FO	535	39	36.1	7,472	N/A	535	39	0.0	6,204	N/A	634	45	20,570	0.0	9.7	6,204	7,472
A14	965+00	WAAD-1	Dead	EM	22	31	4.4	16	N/A	22	11	0.2	2	N/A	27	21	238	0.2	1.5	2	16
A15	972+00	WAAT-1	Dead	FO/SS	77	10	3.5	58	N/A	77	10	0.4	11	N/A	80	16	797	0.4	2.0	11	58
A15	976+50	WAAT-2	Dead	FO/SS	127	67	13.8	3,015	S6	127	67	2.2	682	S0	175	80	8,589	2.2	9.6	682	3,015
A15	982+00	WAAT-3	Dead	FO/SS	69	79	32.9	1,774	N/A	69	79	2.1	412	N/A	85	95	5,430	2.1	8.8	422	1,774
A16	985+40	WAAT-1	Dead	FO/SS	77	16	8.3	311	N/A	77	16	1.6	73	N/A	88	26	12,29	1.6	6.8	73	311
A16	989+40	WAAT-2	Dead	FO/SS	60	6	4.8	36	N/A	60	6	1.9	25	N/A	69	8	373	1.9	2.9	25	36
A16	993+42	WAAT-3	Dead	FO/SS	130	43	15.5	1,693	S5	130	43	1.8	373	4	140	5,591	1.8	8.2	373	1,693	
A16	992+34	WAAD-4	Dead	FO/SS	41	32	11.6	309	N/A	41	32	1.8	66	N/A	57	41	1,287	1.8	6.4	66	309
A17	995+63	WAAT-1	Dead	FO/SS	310	75	10.4	4,982	S8	310	75	1.6	1,370	S6	334	80	23,259	1.6	5.8	1,370	4,982
A18	1002+50	WAAT-3	Dead	FO/EM	95	60	8.5	1,247	10	95	60	0.5	105	2	102	79	5,686	0.5	5.9	105	1,247
B22A	1005+25	WAAT-1	Dead	EM	61	18	1.7	34	N/A	61	18	1.8	373	N/A	69	25	1,112	5.2	0.8	222	34
B22C	1006+75	WAATC-1	Dead	EM	40	12	1.7	16	N/A	40	12	21.9	390	N/A	50	14	487	21.9	0.9	390	16
B42	1007+25	WAAT-2	Dead	FO	60	56	1.7	59	N/A	60	56	10.0	1,249	N/A	80	66	3,351	10.0	0.5	1,249	59
B41	1010+05	WAAT-1	Dead	EM/SS	104	58	5.5	1,080	N/A	104	58	2.9	643	N/A	123	69	5,990	2.9	4.6	643	1,080
B41	1011+00	WAAT-2	Dead	EM/SS	67	20	9.5	275	N/A	67	20	2.6	131	N/A	109	26	1,363	2.6	5.5	131	275
B40	1016+40	WAAD-1	Dead	EM/SS	85	43	12.4	1,293	N/A	85	43	5.7	773	N/A	127	50	3,660	5.7	9.6	773	1,293
B40	1019+00	WAATC-1	Dead	EM	236	86	17.9	9,226	N/A	236	86	4.6	3,473	N/A	306	99	20,97	4.6	12.3	3,473	9,226
B39A	1025+00	WAAT-1	Dead	EM	29	55	11.3	295	N/A	29	55	0.5	30	N/A	27	58	1,623	0.5	5.0	30	295
B39	1028+75	WAAT-1	Dead	EM	13	8	1.7	7	N/A	13	8	3.6	14	N/A	18	10	107	3.6	1.8	14	7
B36	1032+40	WAAT-1	Dead	FO	359	60	19.4	8,756	N/A	359	60	5.0	3,981	N/A	405	64	21,462	5.0	11.0	3,981	8,756
B35	1036+55	WAAT-2	Dead	FO	230	31	13.7	2,233	N/A	230	31	4.5	1,188	N/A	262	39	7,52	4.5	8.5	2,233	1,188
B38	1039+60	WAAT-3	Dead	FO	153	59	18.2	3,099	N/A	153	59	6.3	2,110	N/A	159	68	9,085	6.3	9.3	2,110	3,099

SECTION 10A

PROJECTS REQUIRING FILL

SECTION 10B

PROJECTS REQUIRING EXCAVATION

SECTION 10C

ACTIVITIES THAT MAY IMPACT WETLANDS

SECTION 12

REPORTATION

WETLANDS

SECTION 10A, 10B, & 12: WETLAND IMPACT

Rev. 04: 10/27/2009

WETLAND IMPACT AND LOCATION

DESCRIPTION AND LOCATION

WETLAND IDENTIFICATION	STATION	WETLAND TYPE	PROJECTS REQUIRING FILL				PROJECTS REQUIRING EXCAVATION				ACTIVITIES THAT MAY IMPACT WETLANDS									
			AVG LENGTH (FT)	AVG DEPTH (FT)	TOTAL FILL VOLUME (CF)	AVE EXC. DEPTH (FT)	EXCAV. WIDTH (FT)	MAX EXC. LENGTH (FT)	EXCAV. AREA (SF)	EXCAV. FILL WIDTH (FT)	MAX EXC. LENGTH (FT)	EXCAV. AREA (SF)	AVE EXC. DEPTH (FT)	TOTAL EXC. VOLUME (CF)	TOTAL FILL VOLUME (CF)					
B37A	1046+00	W-B37A-1 Dead	EM	28	46	53	205	N/A	28	48	0.5	25	30	56	1,322	0.5	4.1	25	205	
B37	1048+56	W-B37-1 Dead	Fo/EM	203	68	23.3	6,172	N/A	203	68	0.1	4,117	N/A	243	72	13,876	8.1	12.1	4,117	6,172
B37	1050+47	W-B37-2 Dead	Fo/EM	198	67	22.7	5,690	N/A	198	67	5.7	2,795	N/A	241	72	13,346	5.7	10.4	2,795	5,690
B34	1052+497	W-B34-1 Dead	Fo/EM	100	53	12.0	1,281	N/A	100	53	0.5	97	N/A	123	87	5,368	0.5	6.5	97	1,281
B33	1070+94	W-B33-1 Dead	FO	123	102	25.0	5,610	N/A	123	102	1.0	457	N/A	132	125	12,476	1.0	11.6	457	5,610
B32	1080+25	W-B32-1 Dead	FO	22	66	16.9	707	22	66	0.5	27	6	23	72	1,448	0.5	13.1	27	707	
B32	1085+00	W-B32-1 Dead	FO/EM	196	32	10.3	1,232	N/A	198	32	0.5	116	N/A	209	44	6,382	0.5	5.3	116	1,232
B31	1087+40	W-B31-2 Dead	Fo/EM	51	28	6.8	394	75	51	28	0.9	48	4	56	28	1,404	0.9	3.7	48	134
B31	1089+00	W-B31-3 Dead	Fo/EM	261	29	8.5	1,276	N/A	261	29	1.0	277	N/A	291	38	7,597	1.0	4.6	277	1,276
B32	1097+40	W-B32-1 Dead	EM	33	74	14.4	924	7	33	74	0.5	45	3	34	85	2,461	0.5	10.2	45	924
B31	1104+30	W-B31-1 Dead	EM	54	83	18.8	1,529	3	54	83	0.5	83	2	56	101	4,464	0.5	9.2	83	1,529
B30	1105+47	W-B30-1 Dead	EM/FSS	20	27	14.8	241	N/A	20	27	0.5	10	N/A	31	36	537	0.5	12.1	10	241
B30	1107+43	W-B30-1 Dead	FO/FSS	196	66	16.9	4,957	N/A	186	66	1.6	711	N/A	213	84	12,244	1.6	10.9	711	4,957
B30	1115+25	W-B30-1 Dead	FO/FSS	85	49	6.6	632	N/A	85	49	2.4	370	N/A	108	58	4,147	2.4	4.2	370	632
B37	1120+32	W-B37-1 Dead	SS	54	116	17.7	2,212	N/A	54	116	0.8	162	N/A	68	130	6,269	0.8	9.5	182	2,212
B36	1123+00	W-B36-1 Dead	FO/FSS	64	25	8.4	362	N/A	64	25	3.0	176	N/A	70	28	1,631	3.0	6.4	176	362
B35	1125+04	W-B35-1 Dead	FO	26	6	2.3	4	N/A	26	6	0.3	2	N/A	33	7	155	0.3	0.7	2	4
B35	1133+45	W-B33-1 Dead	FO/FSS	64	44	5.8	437	3	64	44	1.0	102	2	68	59	2,809	1.0	4.2	102	437
B31	1137+75	W-B31-1 Dead	EM/FSS	92	92	12.4	2,629	N/A	92	92	0.8	248	N/A	98	100	8,487	0.8	8.4	248	2,629
B32	1140+50	W-B32-1 Dead	EM/FSS	169	75	22.1	4,086	0	169	75	0.5	217	0	176	62	12,719	0.5	8.9	217	4,086
B31	1142+73	W-B31-3 Dead	EM/FSS	31	69	17.4	843	0	31	69	0.6	45	0	37	83	2,149	0.6	10.6	45	843
M31	1156+29	W-B41-1 Dead	FO	92	91	17.9	3,610	N/A	92	91	1.1	345	N/A	102	97	8,435	1.1	11.6	345	3,610
M2	1160+41	W-B42-1 Dead	FO	133	64	12.1	2,469	N/A	133	64	3.6	1,150	N/A	143	70	8,518	3.6	7.8	11,150	2,469
M4	1162+30	W-B44-1 Dead	SS	50	35	5.5	250	N/A	50	35	1.0	65	N/A	86	41	1,741	1.0	3.9	65	250
M5	1165+54	W-B45-1 Dead	FO	126	52	6.3	732	N/A	126	52	0.9	239	N/A	138	58	6,683	0.9	2.9	239	732
M6	1168+00	W-B46-1 Dead	EM	36	31	8.9	253	N/A	36	31	1.0	43	N/A	39	36	3,112	1.0	6.1	41	233
M5	1169+25	W-B45-2 Dead	FO	15	14	5.9	28	N/A	15	14	0.5	4	N/A	16	15	204	0.5	3.6	4	28
M7	1169+68	W-B47-1 Dead	FO	30	37	9.3	311	N/A	30	37	0.5	21	N/A	48	50	1,122	0.5	7.6	21	311
M8	1173+00	W-B48-1 Yellow Dog	FO	119	71	4.2	644	N/A	119	71	2.3	720	N/A	122	81	8,443	2.3	2.1	720	644
M9	1183+25	W-B49-1 Yellow Dog	EM	34	60	4.1	93	N/A	34	60	1.0	72	N/A	45	69	2,063	1.0	1.2	72	93
M10	1185+63	W-B412-1 Yellow Dog	EM	73	50	6.7	409	N/A	73	50	0.8	134	N/A	82	64	3,636	0.8	3.0	134	409
M11	1186+00	W-B413-1 Yellow Dog	FO	182	68	12.2	3,234	N/A	182	68	3.4	1,577	N/A	185	66	12,297	3.4	7.0	1,577	3,234
L6	1198+00	W-B45-1 Yellow Dog	FO	35	45	11.1	484	N/A	35	45	0.5	29	N/A	36	46	1,584	0.5	8.3	46	484
L6	1199+30	W-B45-2 Yellow Dog	FO	42	46	10.5	355	N/A	42	46	0.5	37	N/A	49	69	1,945	0.5	5.0	37	355
L5	1203+00	W-B45-1 Yellow Dog	FO	46	41	4.8	20	N/A	46	41	0.3	5	N/A	53	14	494	0.3	1.1	5	20
A412	2210+00	W-A412-1 Yellow Dog	FO	124	57	28.1	5,559	N/A	124	57	0.5	129	N/A	128	72	6,997	0.5	20.5	129	5,559
L2	1224+40	W-A2-1 Yellow Dog	FO/EM	291	219	30.3	26,018	N/A	291	199	0.6	899	N/A	347	140	40,456	0.6	17.4	899	26,018
L2	1227+30	W-A2-2 Yellow Dog	FO/EM	162	47	27.0	5,113	N/A	162	47	0.7	197	N/A	205	59	7,616	0.7	16.1	197	5,113
L2	1230+30	W-A2-3 Yellow Dog	FO/EM	418	85	17.0	14,091	N/A	418	85	0.8	10,53	N/A	438	107	35,674	0.8	10.7	1053	14,091
L2	1233+30	W-A2-4 Yellow Dog	FO/EM	191	34	2.5	645	N/A	191	34	0.5	117	N/A	207	36	6,464	0.5	2.7	117	645
L2	1235+00	W-A2-5 Yellow Dog	FO/EM	241	60	6.0	1,299	N/A	241	60	0.8	422	N/A	252	63	14,489	0.8	2.6	422	1,299

SECTION 10A, 10B, & 12: WETLAND IMPACT

WETLAND IMPACT DESCRIPTION AND LOCATION		PROJECTS REQUIRING FILL						PROJECTS REQUIRING EXCAVATION						ACTIVITIES THAT MAY IMPACT WETLANDS						Rev. 04: 10/27/2009	
WETLAND CLASSIFICATION	SECTION	WETLAND WATERSHED	WATERFALL LENGTH (FT)	AVE. FAL. WIDTH (FT)	TOTAL FILL VOLUME (C.Y.)	FILL VOLUME BELOW CHWMA (C.Y.)	AVE. EXC. LENGTH (FT)	AVE. EXC. WIDTH (FT)	TOTAL EXC. VOLUME (C.Y.)	EXCAVATION DEPTH (FT)	MAX. EXC. DEPTH (FT)	MAX. EXC. AREA (SF)	AVE. EXC. DEPTH (FT)	AVE. FILL VOLUME (C.Y.)	TOTAL FILL VOLUME (C.Y.)	WETLAND RESTORATION AREA (SF)					
12	1263-00	W-12-6	Yellow Dog	214	61	12,2	4,130	N/A	214	61	52	N/A	216	63	13,075	52	8.5	2,535	4,130		
12	1245-50	W-12-7	Yellow Dog	20	8	3.3	14	N/A	28	8	0.5	N/A	33	8	216	0.5	1.7	4	14		
12	1246-00	W-12-8	Yellow Dog	31	18	4.5	62	N/A	31	18	0.5	N/A	33	19	552	0.5	1.0	10	14,173		
12	1247-00	W-12-9	Yellow Dog	86	63	6.4	955	N/A	86	63	10	N/A	87	72	5,401	1.0	4.8	195	955		
13	1266-00	W-13-1	Yellow Dog	271	75	10.0	4,780	N/A	271	75	10	N/A	338	81	20,328	1.0	6.3	753	4,780		
03	1262-25	W-03-1	Yellow Dog	727	61	8.1	7,558	6	727	61	0.8	1,314	26	771	67	44,328	0.8	4.6	1,314	7,558	
03	1268-05	W-03-2	Yellow Dog	5	27	7.7	19	0	5	27	0.4	2	26	6	39	132	0.4	3.8	2	19	

SECTION 10A, 10B, & 12: WETLAND IMPACT
WETLAND IMPACT
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ACTIVITIES THAT MAY IMPACT WETLANDS
WETLAND RESTORATION

WETLAND WATERSHED STATION	CROSS SECTION	WETLAND TYPE	WATERLINE DEPTH (FT.)	AVE. DEPTH (FT.)	TOTAL FILL VOLUME (CF.)	MAX FILL DEPTH (FT.)	AVE EXC. WIDTH (FT.)	TOTAL EXC. VOLUME (CF.)	MAX EXC. DEPTH (FT.)	AVE FIL. WIDTH (FT.)	TOTAL EXC. VOLUME (CF.)	(C.Y.)	(ACRES)	(C.Y.)	(ACRES)
ESCANABA RIVER WATERSHED TOTAL =															
		WETLAND TYPE "EM"		4,477				484		0.32		484	4,677	0.05	
		WETLAND TYPE "EM/SS"		17,902				5,522		1.42		5,522	17,902	0.00	
		WETLAND TYPE "SS"		13,290				3,740		1.17		3,740	13,290	0.00	
		WETLAND TYPE "FO"		0				0		0.00		0	0	0.00	
		WETLAND TYPE "FO/SS"		25,112				10,183		2.49		10,183	25,112	1.24	
		WETLAND TYPE "FO/EM"		7,897				1,965		0.85		1,965	7,897	0.49	
MICHIGANNE RIVER WATERSHED TOTAL =															
		WETLAND TYPE "EM"		6,537				2,248		0.66		2,248	6,537	0.14	
		WETLAND TYPE "EM/SS"		0				0		0.00		0	0	0.00	
		WETLAND TYPE "SS"		0				0		0.00		0	0	0.00	
		WETLAND TYPE "FO"		0				0		0.00		0	0	0.00	
		WETLAND TYPE "FO/SS"		248				80		0.10		80	148	0.00	
		WETLAND TYPE "FO/EM"		6,389				2,158		0.56		2,158	6,389	0.14	
DEAD RIVER WATERSHED TOTAL =															
		WETLAND TYPE "EM"		285,306				90,223		18.59		89,953	285,306	1.27	
		WETLAND TYPE "EM/SS"		5,312				1,734		0.74		1,734	5,312	0.07	
		WETLAND TYPE "SS"		303,34				7,083		1.88		7,083	303,34	0.05	
		WETLAND TYPE "FO"		28,949				11,413		1.01		11,413	28,949	0.00	
		WETLAND TYPE "FO/SS"		83,852				33,087		6.01		33,087	83,852	0.21	
		WETLAND TYPE "FO/EM"		89,223				24,057		5.46		24,057	89,223	0.61	
YELLOW DOG RIVER WATERSHED TOTAL =															
		WETLAND TYPE "EM"		75,362				10,184		5.19		10,184	75,362	0.33	
		WETLAND TYPE "EM/SS"		502				186		0.13		186	502	0.00	
		WETLAND TYPE "SS"		7,577				1,316		1.02		1,316	7,577	0.00	
		WETLAND TYPE "FO"		0				0		0.00		0	0	0.00	
		WETLAND TYPE "FO/SS"		10,076				2,497		0.73		2,497	10,076	0.00	
		WETLAND TYPE "FO/EM"		0				0		0.00		0	0	0.00	
		WETLAND TYPE "FO/EM"		57,07				6,185		3.31		6,185	57,07	0.39	

PERMIT NUMBER: MDEQ-LWMD-001
 DATE: OCT 29 2008
 RECEIVED BY: DNR
 FILE NUMBER: 001

SECTION 14: BRIDGES & SECTION 10C: RIP RAP

BRIDGE LOCATION	STREAM/ RIVER INDEX	STATION	ENTRANCE DESIGN TYPE	SPAN (FT)	WIDTH DESIGN (FT)	BRIDGE RISE STREAMBED SLOPED (FT)	STRUCTURE WATERWAY OPENING ABOVE BRIDGE BEAM (FT)	ROAD GRADE AT STRUCTURE CENTERLINE (FT)	LOW POINT IN ROAD AT CENTERLINE (FT)	CROSS SECTIONAL AREA OF CHANNEL (SQ. FT.)	UP STREAM (FT)	DOWN STREAM (FT)	Ave Stream Width at OHWM		RIP RAP		
													ELEVATIONS (NAVD88)	DISTANCE FROM LOW POINT IN ROAD TO MID PT OF STRUCTURE (FT)	RIP RAP AREA (SFDS)	RIP RAP VOL (CYDS)	
925+25	Dead River	925+25	Timber deck, Steel stringer	35 (17 between abutments)	13	9.72	153	1554.69	1555.48	1555.48	0	24	17	20	n/a	n/a	
1288+00	Yellow Dog River	1288+00	Timber deck, Steel stringer	40	11.67	10.20	199	1420.10	1421.86	1414.15	240	37	24	21	n/a	n/a	
Approx. 180' north of 1140+00	Mulligan Creek	Approx. 180' north of 1140+00	Timber deck, Wood girder	24	12	3.21	70	1676.95	1678.62	1676.29	30	12	14	13	n/a	n/a	
<hr/>																	
PROPOSED STRUCTURES																	
158+50	Middle Br. Escanaba River	60	Spill Thru Box Beam	9.95	498	1532.95	1535.93	1534.48	415	111	24	30	223	112	278	139	
214+00	Second River	53	Spill Thru Box Beam	9.74	350	1547.44	1549.87	1548.61	510	67	20	21	9	114	57		
280+75	Koops Creek	20	Wingwalls	7.25	112	1571.00	1575.30	1572.22	404	12	11	17	20	134	66		
925+25	Dead River	24	Wingwalls	11.36	214	1556.33	1568.42	1566.73	179	47.5	12.5	12	11	185	92		
1142+50	Mulligan Creek	36	Wingwalls	10.83	257	1688.13	1695.23	1690.32	307	1417.80	1420.73	1419.71	400	75	24	21	262
1288+00	Yellow Dog River	55	Concrete Spill Thru Box Beam	7.90	314	1417.80	1420.73	1419.71	597								

Span is defined as being perpendicular to stream flow.

* Conspan Bridge span is defined as the dimension from inside face of conspan leg to inside face of conspan leg.

* Box Beam Bridge span is defined as the dimension from Reference Point A to Reference Point B (total length of the Box Beam).

* Box Beam Bridge width is defined as the dimension from outside of Headwall to outside of Headwall.

* Conspan Bridge width is defined as the dimension from outside of bridge deck to outside of bridge deck.

* Box Beam Bridge width is defined as the dimension from outside of bridge deck to outside of bridge deck.

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SECTION 14: CULVERTS

CULVERT LOCATION		CULVERT TYPE				ELEVATION OF STRUCTURE				ELEVATION OF STREAMBED				WATERWAY OPENING ABOVE STREAMBED (SQ.FT)				ELEV. OF ROAD GRADE AT LOW POINT IN ROAD AT CENTERLINE (FT)				AVE STREAM DEPTH AT OHWM				AVE AREA OF PRIMARY CHANNEL (SQ.FT)																
STATION	PURPOSE	SHAPE	MATERIAL	SIZE (FT)	LENGTH (FT)	INLET DESIGN	OUTLET DESIGN	INLET (FT)	OUTLET (FT)	INLET CROWN ELEV. (FT)	OUTLET CROWN ELEV. (FT)	CULVERT RISE (FT)	OUTLET ELEV. (FT)	HIGHER CULVERT OR STREAMBED (FT)	CULVERT INVERT (FT)	ELEV. OF ROAD GRADE AT LOW POINT IN ROAD AT CENTERLINE (FT)	CULVERT INVERT (FT)	ELEV. OF ROAD GRADE AT LOW POINT IN ROAD AT CENTERLINE (FT)	CULVERT INVERT (FT)	ELEV. OF ROAD GRADE AT LOW POINT IN ROAD AT CENTERLINE (FT)	CULVERT INVERT (FT)	ELEV. OF ROAD GRADE AT LOW POINT IN ROAD AT CENTERLINE (FT)	AVE STREAM DEPTH AT OHWM (FT)	UP STREAM STRUCTURE (FT)	DOWN STREAM STRUCTURE (FT)	UP STREAM STREAMBED (FT)	DOWN STREAM STREAMBED (FT)	UP DOWN STREAM STREAMBED (FT)	DOWN STREAM STREAMBED (FT)													
136+65	Equalization	Circular	RCP	2.0' Dia.	94	End Section	End Section	1531.16	1530.5	1533.6	1532.5	N/A	N/A	Culvert Invert	2.00	3.14	1537.8	1533.78	1433	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A										
237+25	Equalization	Circular	RCP	1.5' Dia.	70	End Section	End Section	1550.03	1549.82	1551.53	1551.32	N/A	N/A	Culvert Invert	1.50	1.77	1554.02	1548.61	1825	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A									
286+04	Runoff	Circular	RCP	1.5' Dia.	101	End Section	End Section	1562.77	1562.06	1563.56	1563.56	N/A	N/A	Culvert Invert	1.50	1.77	1573.04	1572.52	125	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A									
324+93	Runoff	Circular	RCP	2.0' Dia.	54	End Section	End Section	1564.21	1564.05	1565.21	1565.05	N/A	N/A	Culvert Invert	2.00	3.14	1568.23	1568.20	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A									
334+40	Runoff	Circular	RCP	2.5' Dia.	60	End Section	End Section	1567.00	1561.64	1564.50	1564.14	N/A	N/A	Culvert Invert	2.50	4.91	1566.04	1566.13	56	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A									
342+64	Stream	Circular	RCP	3.5' Dia.	60	End Section	End Section	1562.31	1562.02	1565.81	1565.52	1562.81	1562.52	Invert	3.50	8.78	1567.0	1567.26	186	3	3	0.75	0.75	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25							
347+4D	Runoff	Circular	RCP	1.5' Dia.	68	End Section	End Section	1564.18	1563.84	1565.66	1565.34	N/A	N/A	Culvert Invert	1.50	1.77	1568.02	1567.26	290	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A									
355+50	Stream	Box	RCP	4' x 6'	160	Wing Walls	Wing Walls	1567.25	1566.45	1572.08	1571.28	1567.5	1566.95	Invert	4.00	21.00	1574.31	1573.46	222	5.5	5.5	0.75	0.75	4.125	4.125	4.125	4.125	4.125	4.125	4.125	4.125	4.125	4.125	4.125	4.125							
377+83	Runoff	Circular	RCP	2.5' Dia.	60	End Section	End Section	1615.44	1614.11	1617.94	1617.51	N/A	N/A	Culvert Invert	1.50	4.91	1620.68	1573.46	2011	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
402+40	Runoff	Circular	RCP	1.5' Dia.	71	End Section	End Section	1678.57	1678.22	1680.07	1679.72	N/A	N/A	Culvert Invert	1.50	1.77	1684.89	1684.54	72	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
406+75	Runoff	Circular	RCP	1.5' Dia.	95	End Section	End Section	1681.97	1680.35	1683.47	1681.85	N/A	N/A	Culvert Invert	1.50	1.77	1691.17	1684.54	363	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
418+95	Runoff	Circular	RCP	2.5' Dia.	91	End Section	End Section	1724.97	1724.06	1727.47	1726.56	N/A	N/A	Culvert Invert	2.50	4.91	1736.46	1684.54	1583	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
423+55	Runoff	Circular	RCP	3.0' Dia.	70	End Section	End Section	1744.55	1742.73	1746.05	1742.43	N/A	N/A	Culvert Invert	1.50	1.77	1750.49	1721.89	1995	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
432+50	Runoff	Circular	RCP	2.0' Dia.	63	End Section	End Section	1735.65	1733.02	1737.65	1735.02	N/A	N/A	Culvert Invert	2.00	3.14	1740.79	1721.89	1340	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
438+00	Runoff	Circular	RCP	2.5' Dia.	60	End Section	End Section	1726.16	1725.39	1728.66	1727.79	N/A	N/A	Culvert Invert	2.0	4.91	1730.57	1721.89	790	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
446+40	Runoff	Circular	RCP	3.0' Dia.	70	End Section	End Section	1716.59	1715.44	1719.59	1718.44	N/A	N/A	Culvert Invert	3.00	7.07	1722.0	1721.89	50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
450+50	Runoff	Circular	RCP	2.5' Dia.	63	End Section	End Section	1718.85	1718.36	1721.35	1720.66	N/A	N/A	Culvert Invert	2.50	4.91	1724.34	1723.13	270	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
454+20	Runoff	Circular	RCP	2.0' Dia.	62	End Section	End Section	1718.34	1718.03	1720.34	1720.03	N/A	N/A	Culvert Invert	2.00	3.14	1722.60	1723.13	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
466+50	Runoff	Circular	RCP	1.5' Dia.	98	End Section	End Section	1715.01	1714.52	1716.51	1716.02	N/A	N/A	Culvert Invert	1.50	1.77	1731.15	1731.14	6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
494+40	Stream	Circular	RCP	4.5' Dia.	86	End Section	End Section	1688.78	1687.97	1693.28	1692.47	1689.28	1688.47	Invert	4.50	14.94	1696.08	1695.98	20	N/A	3	N/A	1.25	N/A	3.75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
502+55	Runoff	Circular	RCP	1.5' Dia.	99	End Section	End Section	1686.60	1688.10	1688.10	1687.60	N/A	N/A	Culvert Invert	1.50	1.77	1696.80	1692.85	483	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
S07+75	Runoff	Circular	RCP	2.0' Dia.	68	End Section	End Section	1688.71	1688.92	1690.71	1691.92	N/A	N/A	Culvert Invert	2.00	3.14	1693.03	1692.85	37	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
S11+75	Runoff	Circular	RCP	1.5' Dia.	113	End Section	End Section	1699.40	1689.56	1700.90	1691.06	N/A	N/A	Culvert Invert	1.50	1.77	1709.98	1692.85	1037	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
S20+50	Runoff	Circular	RCP	1.5' Dia.	94	End Section	End Section	1701.46	1695.54	1702.96	1699.04	N/A	N/A	Culvert Invert	1.50	1.77	1711.96	1692.85	1322	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
S23+10	Runoff	Circular	RCP	2.0' Dia.	97	End Section	End Section	1706.20	1705.52	1708.20	1707.52	N/A	N/A	Culvert Invert	2.00	3.14	1717.08	1692.85	2172	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
S38+10	Runoff	Circular	RCP	2.5' Dia.	145	End Section	End Section	1667.02	1664.93	1670.32	1667.43	N/A	N/A	Culvert Invert	2.00	4.91	1694.49	1693.20	190	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
S43+70	Runoff	Circular	RCP	2.5' Dia.	104	End Section	End Section	1665.22	1669.70	1666.72	1662.20	N/A	N/A	Culvert Invert	1.50	1.77	1700.88	1693.20	370	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
S53+65	Runoff	Circular	RCP	1.5' Dia.	133	End Section	End Section	1688.25	1697.11	1699.75	1691.61	N/A	N/A	Culvert Invert	1.50	1.77	1709.47	1682.85	2235	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
S61+55	Runoff	Circular	RCP	2.0' Dia.	99	End Section	End Section	1687.01	1678.04	1689.01	1680.04	N/A	N/A	Culvert Invert	2.00	3.14	1696.88	1648.27	1405	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
S69+49	Stream	Circular	RCP	2.5' Dia.	85	End Section	End Section	1669.43	1661.52	1671.93	1660.02	1669.93	1667.02	Invert	2.50	4.91	1672.61	1648.27	691	1.25	1.25	0.75	0.75	0.9375	0.9375	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S76+35	Runoff	Circular	RCP	2.5' Dia.	131	End Section	End Section	1630.30	1627.81	1632.80	1630.31	N/A	N/A	Culvert Invert	2.50	4.91	1648.37	1648.27	35	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						

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SECTION 14: CULVERTS

STATION	PURPOSE	CULVERT TYPE			ELEVATION OF STRUCTURE			ELEVATION OF STREAMBED			HIGHER ELEVATION: CULVERT INVERT OR STREAMBED (FT)	CULVERT RISE (INLET ELEV. - OUTLET ELEV. (FT))	WATERWAY OPENING ABOVE STREAMBED (SQ.FT.)	ELEV. OF ROAD GRADE AT CENTERLINE (FT)	DISTANCE FROM LOW POINT IN ROAD TO CENTERLINE (FT)	AVE STREAM DEPTH AT OHWM (FT)	AVE STREAM DEPTH AT OHWM (FT)	UP STREAM (SCF/FT)	DOWN STREAM (SCF/FT)	UP DOWN STREAM (SCF/FT)	DOWN STREAM (SCF/FT)	PRIMARY CHANNEL AREA (ACRES)			
		SHAPE	MATERIAL	SIZE (FT)	LENGTH (FT)	INLET DESIGN	OUTLET DESIGN	INLET INVERT (FT)	OUTLET INVERT (FT)	INLET CROWN (FT)															
612+26	Stream	Box	RCP	4'x6'	98	Wing Walls	Wing Walls	1689.25	1657.58	1664.08	1662.41	1659.75	1658.08	Invert	4.00	21.00	1665.49	1664.84	101	N/A	3	N/A	1.5	N/A	4.5
632+40	Runoff	Circular	RCP	1.5'Dia.	60	End Section	End Section	1688.01	1686.01	1689.51	1688.31	N/A	N/A	Culvert Invert	1.50	1.77	1692.43	1691.52	210	N/A	N/A	N/A	N/A	N/A	N/A
647+50	Runoff	Circular	RCP	3.0'Dia.	135	End Section	End Section	1695.88	1695.48	1698.88	1698.48	N/A	N/A	Culvert Invert	3.00	7.07	1702.71	1691.52	1300	N/A	N/A	N/A	N/A	N/A	N/A
660+00	Runoff	Circular	RCP	1.5'Dia.	65	End Section	End Section	1701.54	1695.94	1693.04	1697.44	N/A	N/A	Culvert Invert	1.50	1.77	1704.79	1700.44	1034	N/A	N/A	N/A	N/A	N/A	N/A
665+83	Runoff	Circular	RCP	3.0'Dia.	157	End Section	End Section	1687.15	1686.36	1690.15	1689.36	N/A	N/A	Culvert Invert	3.00	7.07	1702.10	1700.44	451	N/A	N/A	N/A	N/A	N/A	N/A
669+75	Runoff	Circular	RCP	2.0'Dia.	86	End Section	End Section	1684.38	1688.17	1696.38	1696.17	N/A	N/A	Culvert Invert	2.00	3.14	1700.46	1700.44	59	N/A	N/A	N/A	N/A	N/A	N/A
680+50	Runoff	Circular	RCP	2.5'Dia.	64	End Section	End Section	1695.04	1694.40	1697.54	1696.90	N/A	N/A	Culvert Invert	2.50	4.91	1700.65	1700.59	31	N/A	N/A	N/A	N/A	N/A	N/A
685+90	Runoff	Circular	RCP	1.5'Dia.	90	End Section	End Section	1706.96	1706.07	1708.46	1707.57	N/A	N/A	Culvert Invert	1.50	1.77	1713.84	1700.59	510	N/A	N/A	N/A	N/A	N/A	N/A
702+30	Runoff	Circular	RCP	2.5'Dia.	106	End Section	End Section	1738.54	1738.01	1741.04	1740.51	N/A	N/A	Culvert Invert	2.50	4.91	1756.41	1736.86	623	N/A	N/A	N/A	N/A	N/A	N/A
706+05	Stream	Circular	RCP	3.5'Dia.	68	End Section	End Section	1732.39	1733.51	1735.89	1735.01	1732.89	1732.06	Invert	3.50	8.78	1739.15	1736.86	188	1.5	N/A	0.75	N/A	1.125	N/A
724+50	Runoff	Circular	RCP	2.5'Dia.	92	End Section	End Section	1730.00	1729.54	1732.50	1732.04	N/A	N/A	Culvert Invert	2.50	4.91	1741.73	1738.54	232	N/A	N/A	N/A	N/A	N/A	N/A
757+40	Runoff	Circular	RCP	2.5'Dia.	81	End Section	End Section	1791.55	1789.91	1794.05	1792.41	N/A	N/A	Culvert Invert	2.50	4.91	1797.31	1797.21	35	N/A	N/A	N/A	N/A	N/A	N/A
765+13	Runoff	Circular	RCP	1.5'Dia.	50	End Section	End Section	1801.22	1800.92	1802.72	1802.42	N/A	N/A	Culvert Invert	1.50	1.77	1804.64	1797.21	569	N/A	N/A	N/A	N/A	N/A	N/A
769+60	Runoff	Circular	RCP	1.5'Dia.	60	End Section	End Section	1802.20	1799.51	1803.70	1801.01	N/A	N/A	Culvert Invert	1.50	1.77	1805.92	1791.50	1116	N/A	N/A	N/A	N/A	N/A	N/A
774+00	Runoff	Circular	RCP	1.5'Dia.	62	End Section	End Section	1797.39	1794.91	1798.89	1796.41	N/A	N/A	Culvert Invert	1.50	1.77	1801.48	1791.50	676	N/A	N/A	N/A	N/A	N/A	N/A
783+35	Runoff	Circular	RCP	1.5'Dia.	125	End Section	End Section	1778.60	1770.98	1780.10	1772.48	N/A	N/A	Culvert Invert	1.50	1.77	1794.29	1791.50	259	N/A	N/A	N/A	N/A	N/A	N/A
796+50	Stream	Circular	RCP	2.0'Dia.	98	End Section	End Section	1742.70	1738.49	1744.70	1740.49	1743.20	1738.99	Invert	2.00	2.53	1757.03	1743.70	775	N/A	1.75	N/A	0.75	N/A	1.3125
802+75	Stream	Box	RCP	5'x7'	80	Wing Walls	Wing Walls	1734.77	1734.67	1739.97	1735.97	1735.67	1735.67	Invert	5.00	28.00	1744.31	1743.70	150	6.5	3.5	1	1	6.5	3.5
827+00	Runoff	Circular	RCP	1.5'Dia.	96	End Section	End Section	1742.49	1742.01	1743.89	1743.51	N/A	N/A	Culvert Invert	1.50	1.77	1758.48	1743.70	2275	N/A	N/A	N/A	N/A	N/A	N/A
830+65	Runoff	Circular	RCP	1.5'Dia.	109	End Section	End Section	1753.20	1750.15	1754.70	1751.65	N/A	N/A	Culvert Invert	1.50	1.77	1762.48	1743.70	2640	N/A	N/A	N/A	N/A	N/A	N/A
835+90	Runoff	Circular	RCP	1.5'Dia.	52	End Section	End Section	1769.67	1768.42	1771.17	1769.92	N/A	N/A	Culvert Invert	1.50	1.77	1772.46	1743.70	3165	N/A	N/A	N/A	N/A	N/A	N/A
845+20	Runoff	Circular	RCP	1.5'Dia.	101	End Section	End Section	1754.51	1754.00	1756.01	1755.50	N/A	N/A	Culvert Invert	1.50	1.77	1765.17	1589.87	3491	N/A	N/A	N/A	N/A	N/A	N/A
848+70	Runoff	Circular	RCP	2.0'Dia.	107	End Section	End Section	1747.40	1740.36	1749.40	1742.36	N/A	N/A	Culvert Invert	2.00	3.14	1754.65	1589.87	3141	N/A	N/A	N/A	N/A	N/A	N/A
851+35	Runoff	Circular	RCP	2.0'Dia.	106	End Section	End Section	1737.70	1731.51	1739.70	1733.51	N/A	N/A	Culvert Invert	2.00	3.14	1746.72	1589.87	2876	N/A	N/A	N/A	N/A	N/A	N/A
857+50	Runoff	Circular	RCP	1.5'Dia.	59	End Section	End Section	1719.11	1716.65	1720.41	1718.16	N/A	N/A	Culvert Invert	1.50	1.77	1722.85	1589.87	2261	N/A	N/A	N/A	N/A	N/A	N/A
877+66	Runoff	Circular	RCP	2.0'Dia.	71	End Section	End Section	1586.58	1585.41	1588.58	1587.41	N/A	N/A	Culvert Invert	2.00	3.14	1593.03	1589.87	245	N/A	N/A	N/A	N/A	N/A	N/A
880+57	Runoff	Circular	RCP	1.5'Dia.	60	End Section	End Section	1585.16	1584.68	1586.66	1586.18	N/A	N/A	Culvert Invert	1.50	1.77	1599.98	1589.87	46	N/A	N/A	N/A	N/A	N/A	N/A
885+16	Runoff	Circular	RCP	1.5'Dia.	70	End Section	End Section	1585.96	1585.26	1587.46	1586.76	N/A	N/A	Culvert Invert	1.50	1.77	1582.26	1589.87	505	N/A	N/A	N/A	N/A	N/A	N/A
890+63	Runoff	Circular	RCP	2.5'Dia.	86	End Section	End Section	1583.84	1583.41	1586.34	1585.91	N/A	N/A	Culvert Invert	2.50	4.91	1593.30	1581.24	156	N/A	N/A	N/A	N/A	N/A	N/A
895+68	Runoff	Circular	RCP	1.5'Dia.	81	End Section	End Section	1601.16	1598.10	1602.76	1599.50	N/A	N/A	Culvert Invert	1.50	1.77	1607.47	1591.24	661	N/A	N/A	N/A	N/A	N/A	N/A

SECTION 14: CULVERTS

Rev. 02: 10/07/2009

SECTION 14: CULVERTS										Rev. 02: 10/07/2009																
CULVERT LOCATION		CULVERT TYPE				ELEVATION OF STRUCTURE				ELEVATION OF STREAMBED				AVERAGE OF PRIMARY CHANNEL												
STATION	PURPOSE	SHAPE	MATERIAL	SIZE (FT)	LENGTH (FT)	INLET DESIGN	OUTLET DESIGN	INLET INVERT (FT)	OUTLET INVERT (FT)	INLET CROWN (FT)	OUTLET ELEV. (FT)	INLET ELEV. (FT)	OUTLET ELEV. (FT)	WATERWAY OPENING ABOVE STREAMBED (SQ FT)	CULVERT INVERT OR STREAMBED (FT)	ELEV. OF ROAD GRADE AT CENTERLINE (FT)	ELEV. OF LOW POINT IN ROAD AT CENTERLINE (FT)	DEPTH AT OHWM (FT)	AVERAGE STREAM WIDTH AT OHWM (FT)	AVERAGE STREAM DEPTH AT OHWM (FT)	DOWN STREAM (FT)	UP STREAM (FT)	DOWN STREAM (FT)	UP STREAM (FT)		
895+17	Runoff	Circular	RCP	2.0' Dia.	77	End Section	End Section	1601.75	1600.59	1603.75	1602.59	N/A	N/A	Culvert invert	2.00	3.14	1609.26	1591.24	1010	N/A	N/A	N/A	N/A	N/A	N/A	
916+55	Runoff	Circular	RCP	1.5' Dia.	68	End Section	End Section	1572.44	1572.10	1573.94	1573.60	N/A	N/A	Culvert invert	1.50	1.77	1578.23	1566.73	698	N/A	N/A	N/A	N/A	N/A	N/A	
918+49	Runoff	Circular	RCP	2.0' Dia.	59	End Section	End Section	1569.34	1569.04	1571.34	1571.04	N/A	N/A	Culvert invert	2.00	3.14	1573.75	1566.73	464	N/A	N/A	N/A	N/A	N/A	N/A	
933+42	Runoff	Circular	RCP	1.5' Dia.	107	End Section	End Section	1600.05	1592.12	1601.55	1593.62	N/A	N/A	Culvert invert	1.50	1.77	1610.00	1566.73	1019	N/A	N/A	N/A	N/A	N/A	N/A	
947+10	Runoff	Circular	RCP	3.5' Dia.	149	End Section	End Section	1639.56	1631.10	1633.06	1634.90	N/A	N/A	Culvert invert	3.50	9.62	1659.33	1566.73	2357	N/A	N/A	N/A	N/A	N/A	N/A	
955+70	Runoff	Circular	RCP	1.5' Dia.	50	End Section	End Section	1686.00	1685.75	1687.50	1687.25	N/A	N/A	Culvert invert	1.50	1.77	1690.12	1688.40	129	N/A	N/A	N/A	N/A	N/A	N/A	
960+44	Runoff	Circular	RCP	1.5' Dia.	53	End Section	End Section	1685.10	1684.21	1686.60	1685.71	N/A	N/A	Culvert invert	1.50	1.77	1688.64	1688.40	45	N/A	N/A	N/A	N/A	N/A	N/A	
968+38	Runoff	Circular	RCP	1.5' Dia.	64	End Section	End Section	1695.64	1693.78	1697.14	1695.58	N/A	N/A	Culvert invert	1.50	1.77	1700.36	1680.33	794	N/A	N/A	N/A	N/A	N/A	N/A	
975+75	Stream	Box	RCP	5' x 7'	64	Wing Walls	Wing Walls	1688.07	1667.14	1673.07	1672.14	1669.07	1668.14	Culvert invert	1.50	1.77	1680.48	1680.33	5	3	3	1	1	3	3	
982+38	Runoff	Circular	RCP	1.5' Dia.	109	End Section	End Section	1680.90	1679.98	1682.40	1681.58	N/A	N/A	Culvert invert	1.50	1.77	1691.6	1680.33	606	N/A	N/A	N/A	N/A	N/A	N/A	
985+40	Runoff	Circular	RCP	1.5' Dia.	73	End Section	End Section	1689.02	1684.26	1680.52	1685.76	N/A	N/A	Culvert invert	1.50	1.77	1692.79	1680.33	908	N/A	N/A	N/A	N/A	N/A	N/A	
991+00	Stream	Circular	RCP	5.0' Dia.	98	End Section	End Section	1677.33	1675.64	1682.33	1681.64	1677.83	1677.14	Invert	5.00	18.61	1691.01	1688.95	401	N/A	N/A	5	N/A	2.5	N/A	
995+36	Stream	Circular	RCP	4.5' Dia.	82	End Section	End Section	1679.93	1675.98	1684.32	1683.20	1680.43	1679.08	Invert	4.50	14.94	1688.97	1688.95	35	3	2.5	1.5	1.5	4.5	3.75	
1002+42	Stream	Circular	RCP	3.5' Dia.	85	End Section	End Section	1704.20	1705.49	1707.70	1706.99	1704.70	1703.59	Invert	3.20	8.78	1712.49	1688.95	711	2.5	2.5	1.25	1.25	3.125	3.125	
1010+05	Runoff	Circular	RCP	1.5' Dia.	48	End Section	End Section	1744.03	1742.59	1745.53	1744.09	N/A	N/A	Culvert invert	1.50	1.77	1746.34	1688.95	1504	N/A	N/A	N/A	N/A	N/A	N/A	
1017+55	Runoff	Circular	RCP	1.5' Dia.	82	End Section	End Section	1772.26	1770.78	1773.76	1772.28	N/A	N/A	Culvert invert	1.50	1.77	1780.07	1688.95	2254	N/A	N/A	N/A	N/A	N/A	N/A	
1033+00	Runoff	Circular	RCP	2.0' Dia.	80	End Section	End Section	1768.78	1768.38	1770.78	1770.38	N/A	N/A	Culvert invert	2.00	3.14	1777.03	1773.93	220	N/A	N/A	N/A	N/A	N/A	N/A	
1036+55	Runoff	Circular	RCP	1.5' Dia.	60	End Section	End Section	1770.33	1768.61	1771.83	1771.11	N/A	N/A	Culvert invert	1.50	1.77	1775.04	1773.93	135	N/A	N/A	N/A	N/A	N/A	N/A	
1039+09	Runoff	Circular	RCP	2.0' Dia.	57	End Section	End Section	1777.11	1775.59	1779.11	1778.89	N/A	N/A	Culvert invert	2.00	3.14	1781.40	1773.93	389	N/A	N/A	N/A	N/A	N/A	N/A	
1048+56	Runoff	Circular	RCP	1.5' Dia.	67	End Section	End Section	1790.87	1790.53	1792.37	1792.03	N/A	N/A	Culvert invert	1.50	1.77	1795.56	1795.27	284	N/A	N/A	N/A	N/A	N/A	N/A	
1050+47	Runoff	Circular	RCP	2.0' Dia.	61	End Section	End Section	1790.84	1790.15	1792.29	1792.15	N/A	N/A	Culvert invert	2.00	3.14	1795.60	1795.27	93	N/A	N/A	N/A	N/A	N/A	N/A	
1062+07	Runoff	Circular	RCP	1.5' Dia.	129	End Section	End Section	1785.74	1781.87	1787.24	1783.37	N/A	N/A	Culvert invert	1.50	1.77	1796.11	1713.92	2450	N/A	N/A	N/A	N/A	N/A	N/A	
1070+54	Runoff	Circular	RCP	1.5' Dia.	120	End Section	End Section	1751.38	1743.84	1752.88	1745.34	N/A	N/A	Culvert invert	1.50	1.77	1769.40	1713.92	1643	N/A	N/A	N/A	N/A	N/A	N/A	
1081+00	Stream	Circular	RCP	6.0' Dia.	98	End Section	End Section	1715.26	1714.91	1711.16	1710.51	1720.91	1715.92	1715.41	Invert	6.00	27.15	1728.62	1713.92	597	5	5	1.5	1.5	7.5	7.5
1085+00	Runoff	Circular	RCP	2.0' Dia.	91	End Section	End Section	1706.60	1704.78	1708.60	1706.78	N/A	N/A	Culvert invert	2.00	3.14	1713.93	1713.92	197	N/A	N/A	N/A	N/A	N/A	N/A	
1087+50	Stream	Circular	RCP	4.5' Dia.	92	End Section	End Section	1705.00	1704.59	1709.50	1705.09	1705.50	1705.09	Invert	4.50	14.94	1714.06	1713.92	52	2.50	0.75	1.75	1.00	4.38	0.75	
1097+12	Stream	Circular	RCP	1.5' Dia.	90	End Section	End Section	1720.90	1720.25	1722.40	1720.75	1721.40	1720.75	Invert	1.50	1.25	1727.09	1713.92	1015	1.25	0.75	0.75	0.5	0.84	0.38	
1101+61	Runoff	Circular	RCP	1.5' Dia.	98	End Section	End Section	1714.17	1706.97	1715.67	1720.47	1724.67	1720.47	Invert	1.50	1.25	1723.45	1707.98	612	0.75	0.75	0.625	0.47	0.47	0	
1107+63	Runoff	Circular	RCP	3.5' Dia.	99	End Section	End Section	1696.12	1694.63	1699.62	1698.13	N/A	N/A	Culvert invert	3.50	9.62	1708.01	1707.98	10	N/A	N/A	N/A	N/A	N/A	N/A	
1108+32	Runoff	Circular	RCP	1.5' Dia.	128	End Section	End Section	1708.00	1705.05	1709.50	1706.55	N/A	N/A	Culvert invert	1.50	1.77	1722.95	1722.30	31	N/A	N/A	N/A	N/A	N/A	N/A	

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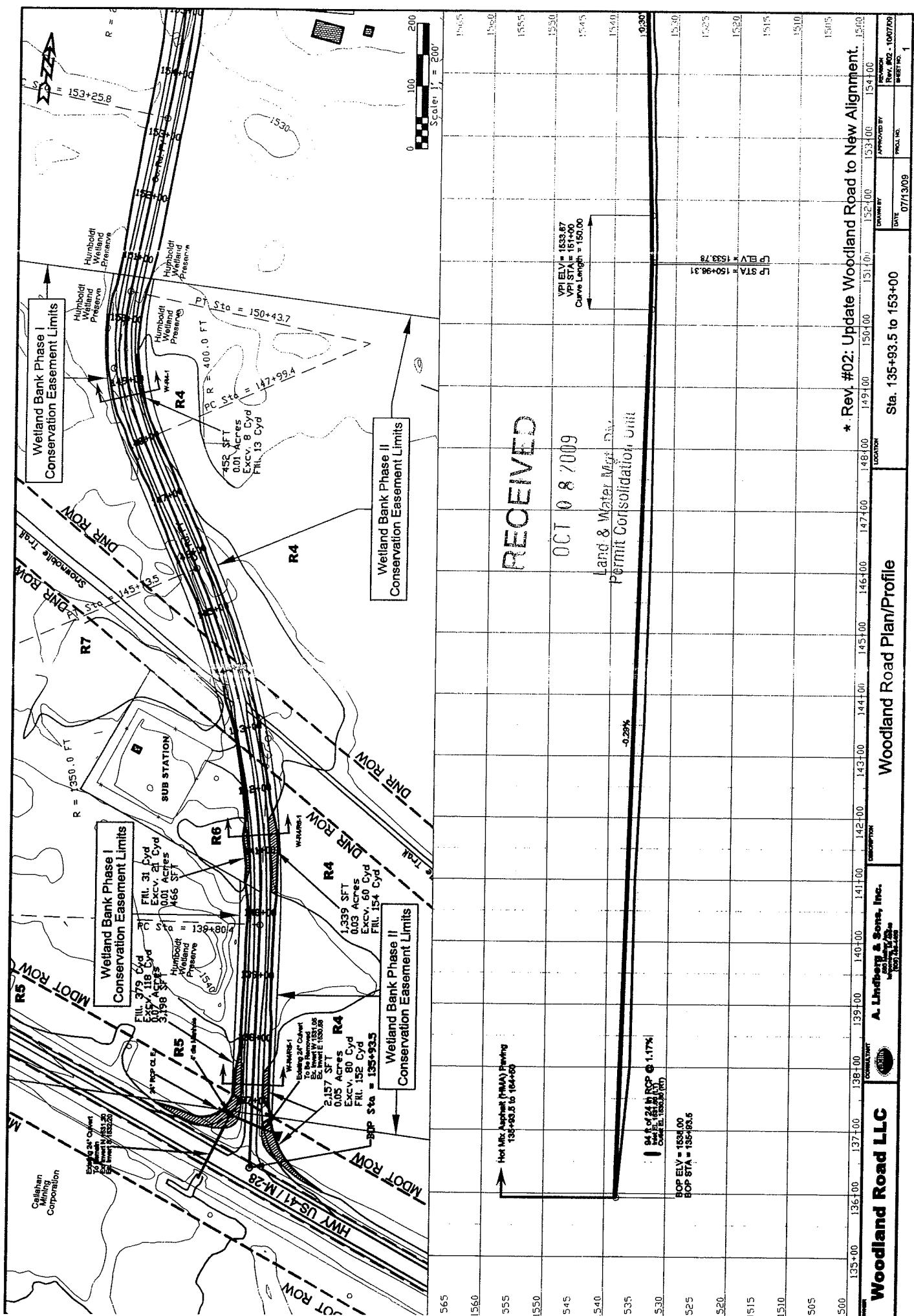
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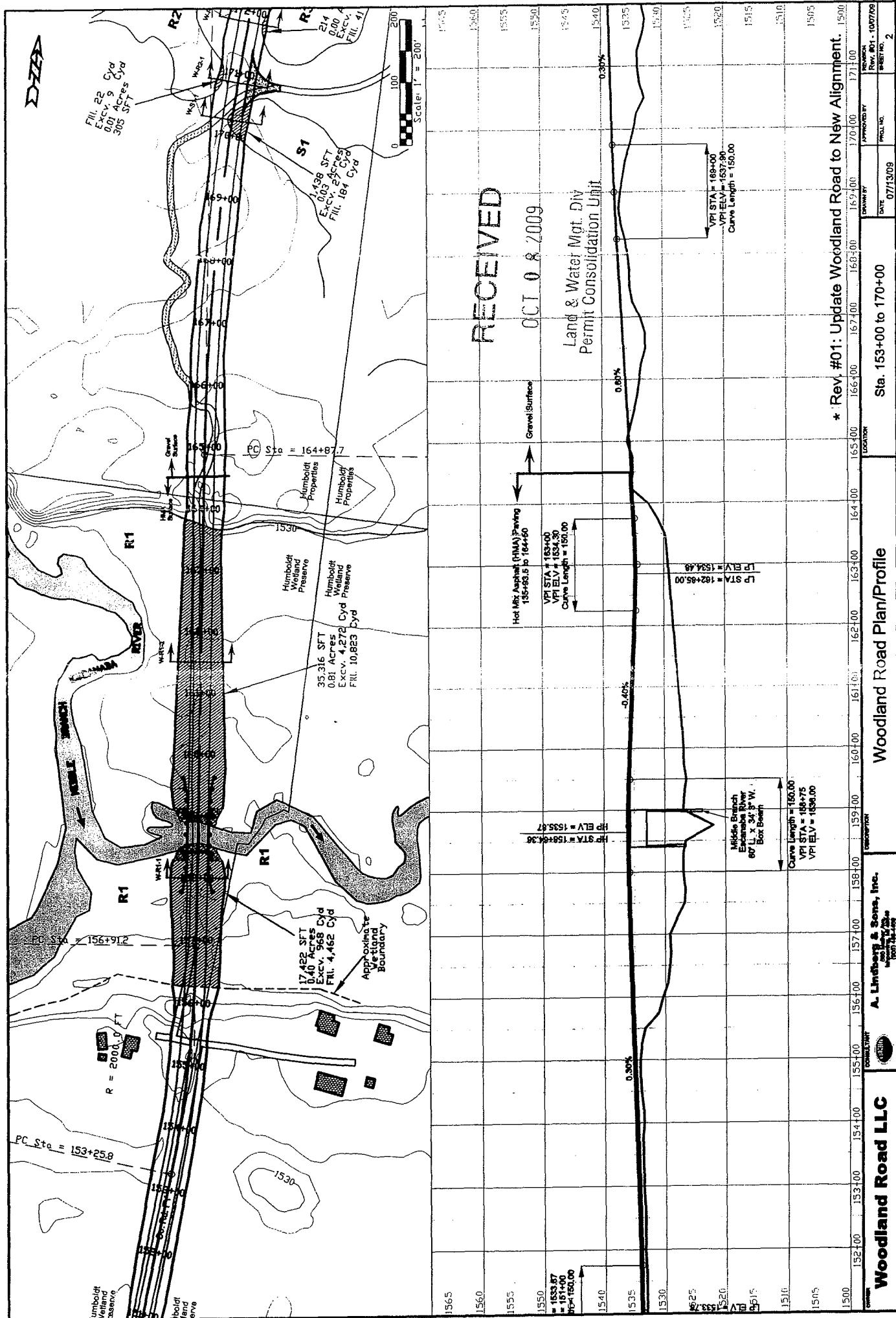
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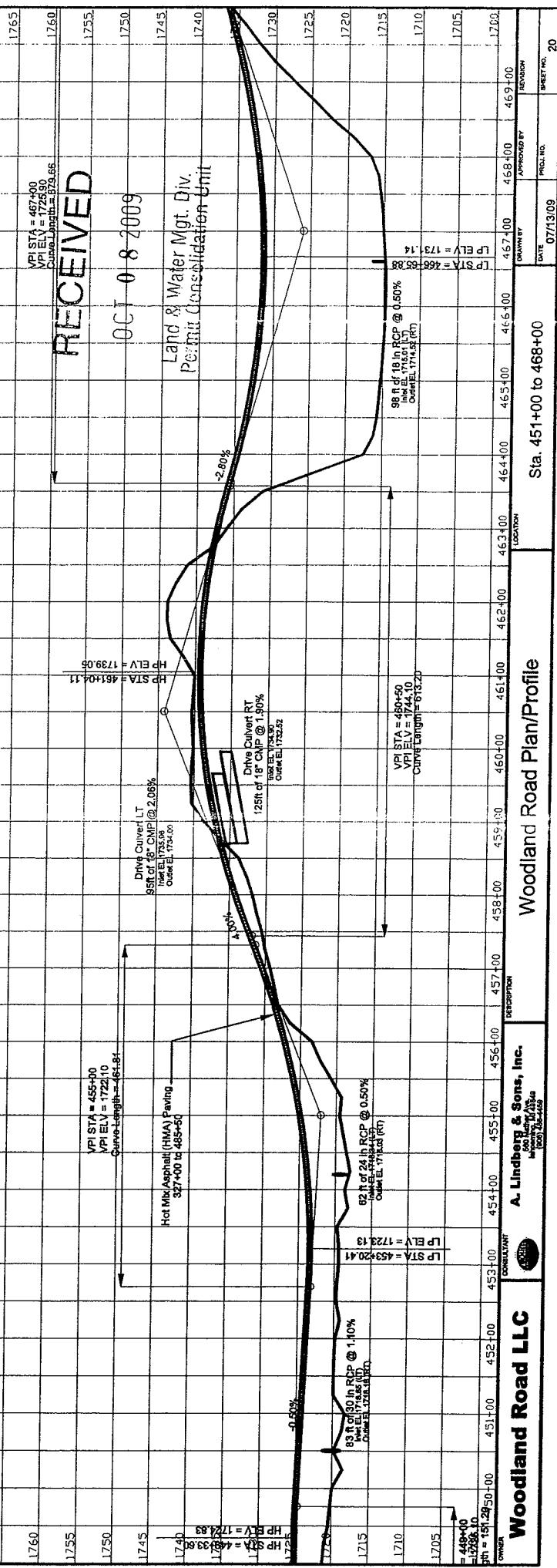
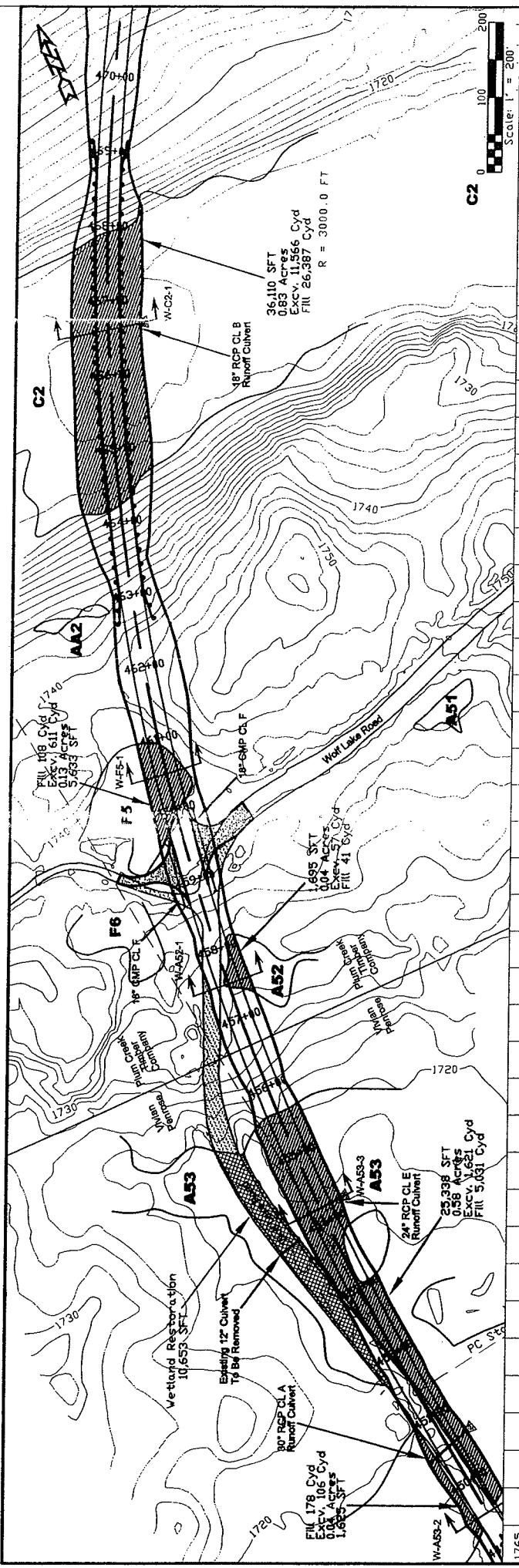
SECTION 14: CULVERTS

STATION	PURPOSE	CULVERT TYPE				ELEVATION OF STRUCTURE				ELEVATION OF STREAMBED				HIGHER ELEVATION: CULVERT INLET OR STREAMBED (FT)	WATERWAY OPENING ABOVE STREAMBED (FT)	CULVERT RISE (FT)	ELEV. OF ROAD GRADE AT LOW POINT IN ROAD AT DHWM (FT)	DISTANCE FROM LOW POINT IN ROAD TO STREAM CENTERLINE (FT)	AVE STREAM DEPTH AT DHWM (FT)	AVE STREAM WIDTH AT DHWM (FT)	UP STREAM (FT)	DOWN STREAM (FT)	UP DOWN STREAM (FT)	IP DOWN STREAM (SQ FT)	DP DOWN STREAM (SQ FT)	Ave Area of Primary Channel (SQ FT)		
		SHAPE	MATERIAL	SIZE (FT)	LENGTH (FT)	INLET DESIGN	OUTLET DESIGN	INLET INVERT (FT)	OUTLET INVERT (FT)	INLET CROWN (FT)	OUTLET CROWN (FT)	INLET ELEV. (FT)	OUTLET ELEV. (FT)															
133+09	Stream	Circular	RCP	2'0" Dia.	73	End Section	1698.84	1697.52	1700.84	1699.52	1699.34	1699.10	N/A	N/A	Culvert invert	2.00	2.53	1703.74	1690.32	535	1.5	0.32	0.42	0.63	0.63	N/A		
137+75	Runoff	Circular	RCP	2'0" Dia.	101	End Section	1692.93	1677.91	1684.93	1679.91	N/A	N/A	Culvert invert	2.00	3.14	1691.77	1690.32	169	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
156+39	Runoff	Circular	RCP	1.5' Dia.	134	End Section	1751.08	1744.78	1752.58	1745.28	N/A	N/A	Culvert invert	1.50	1.77	1763.71	1690.32	1695	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
160+41	Runoff	Circular	RCP	1.5' Dia.	66	End Section	1756.40	1766.07	1767.90	1767.57	N/A	N/A	Culvert invert	1.50	1.77	1772.56	1690.32	2097	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
165+54	Runoff	Circular	RCP	1.5' Dia.	57	End Section	1776.86	1775.89	1778.35	1777.39	N/A	N/A	Culvert invert	1.50	1.77	1779.98	1438.24	8146	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
168+30	Runoff	Circular	RCP	1.5' Dia.	74	End Section	1773.38	1772.12	1774.88	1773.62	N/A	N/A	Culvert invert	1.50	1.77	1779.15	1438.24	7870	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
181+45	Runoff	Circular	RCP	1.5' Dia.	52	End Section	1721.72	1739.60	1743.22	1741.10	N/A	N/A	Culvert invert	1.50	1.77	1744.29	1438.24	6555	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
185+83	Runoff	Circular	RCP	2'0" Dia.	59	End Section	1714.05	1713.58	1716.05	1715.58	N/A	N/A	Culvert invert	2.00	3.14	1718.81	1438.24	6117	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
188+30	Runoff	Circular	RCP	1.5' Dia.	87	End Section	1702.76	1702.32	1704.26	1703.82	N/A	N/A	Culvert invert	1.50	1.77	1711.71	1438.24	5870	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
199+50	Runoff	Circular	RCP	1.5' Dia.	67	End Section	1656.63	1654.78	1658.13	1655.28	N/A	N/A	Culvert invert	1.50	1.77	1662.24	1438.24	4750	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
205+40	Runoff	Circular	RCP	1.5' Dia.	57	End Section	1623.16	1622.59	1624.66	1624.09	N/A	N/A	Culvert invert	1.50	1.77	1627.07	1438.24	4160	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
209+40	Runoff	Circular	RCP	1.5' Dia.	88	End Section	1592.27	1591.38	1593.77	1592.88	N/A	N/A	Culvert invert	1.50	1.77	1602.54	1438.24	3760	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
213+35	Runoff	Circular	RCP	1.5' Dia.	54	End Section	1571.12	1570.58	1572.62	1572.08	N/A	N/A	Culvert invert	1.50	1.77	1574.80	1438.24	3365	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
217+35	Runoff	Circular	RCP	1.5' Dia.	55	End Section	1543.15	1542.60	1544.65	1544.10	N/A	N/A	Culvert invert	1.50	1.77	1546.71	1438.24	2965	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
232+42	Equalization	Circular	RCP	2'0" Dia.	71	End Section	1440.44	1440.08	1442.44	1442.08	N/A	N/A	Culvert invert	2.00	3.14	1448.59	1438.24	1458	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
232+50	Equalization	Circular	RCP	2'0" Dia.	33	End Section	1439.96	1439.80	1441.96	1441.80	N/A	N/A	Culvert invert	2.00	3.14	1442.61	1438.24	1350	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
235+40	Equalization	Circular	RCP	2'0" Dia.	56	End Section	1439.49	1439.21	1441.49	1441.21	N/A	N/A	Culvert invert	2.00	3.14	1443.86	1438.24	1160	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
243+68	Equalization	Circular	RCP	2'0" Dia.	63	End Section	1435.99	1435.07	1437.99	1437.07	N/A	N/A	Culvert invert	2.00	3.14	1439.70	1438.24	332	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
247+60	Equalization	Circular	RCP	2'0" Dia.	74	End Section	1433.41	1432.56	1435.41	1434.56	N/A	N/A	Culvert invert	2.00	3.14	1438.37	1438.24	60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

• Rev. 02: Revise Sta. 136+65 Culvert data.

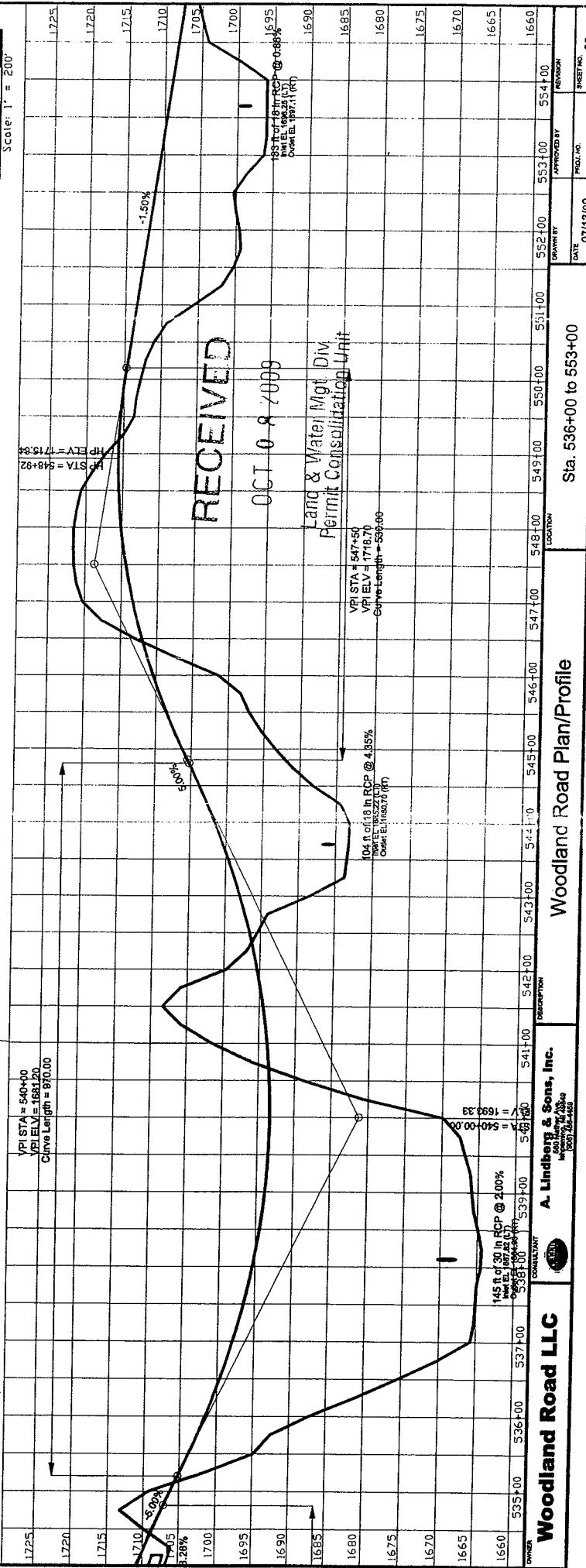
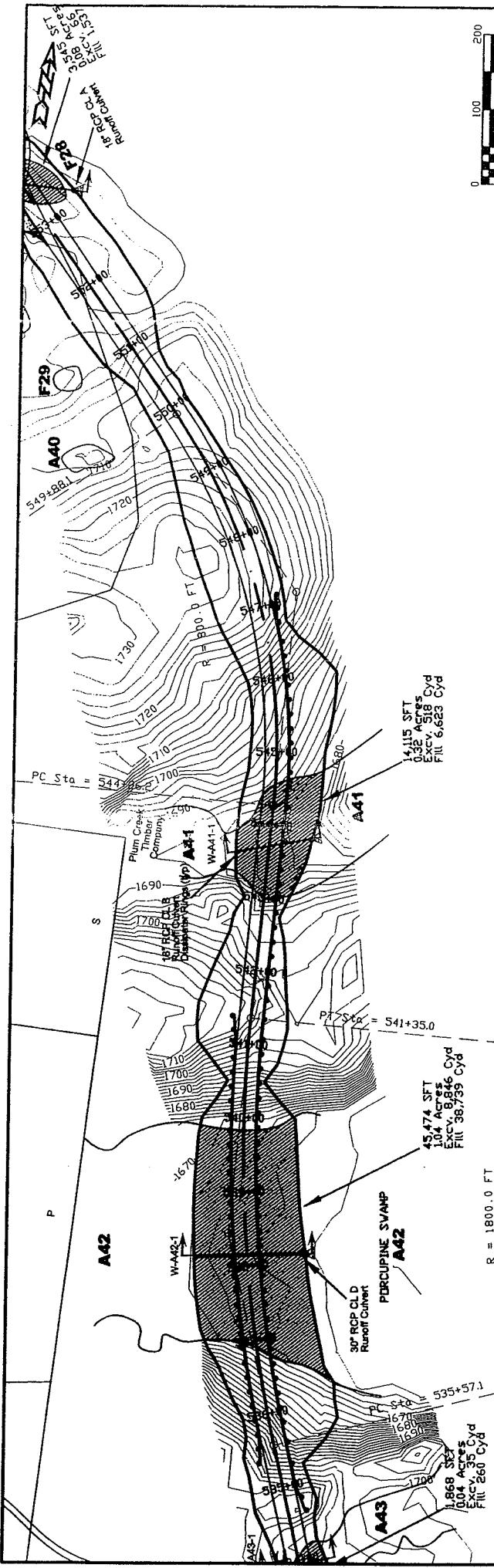


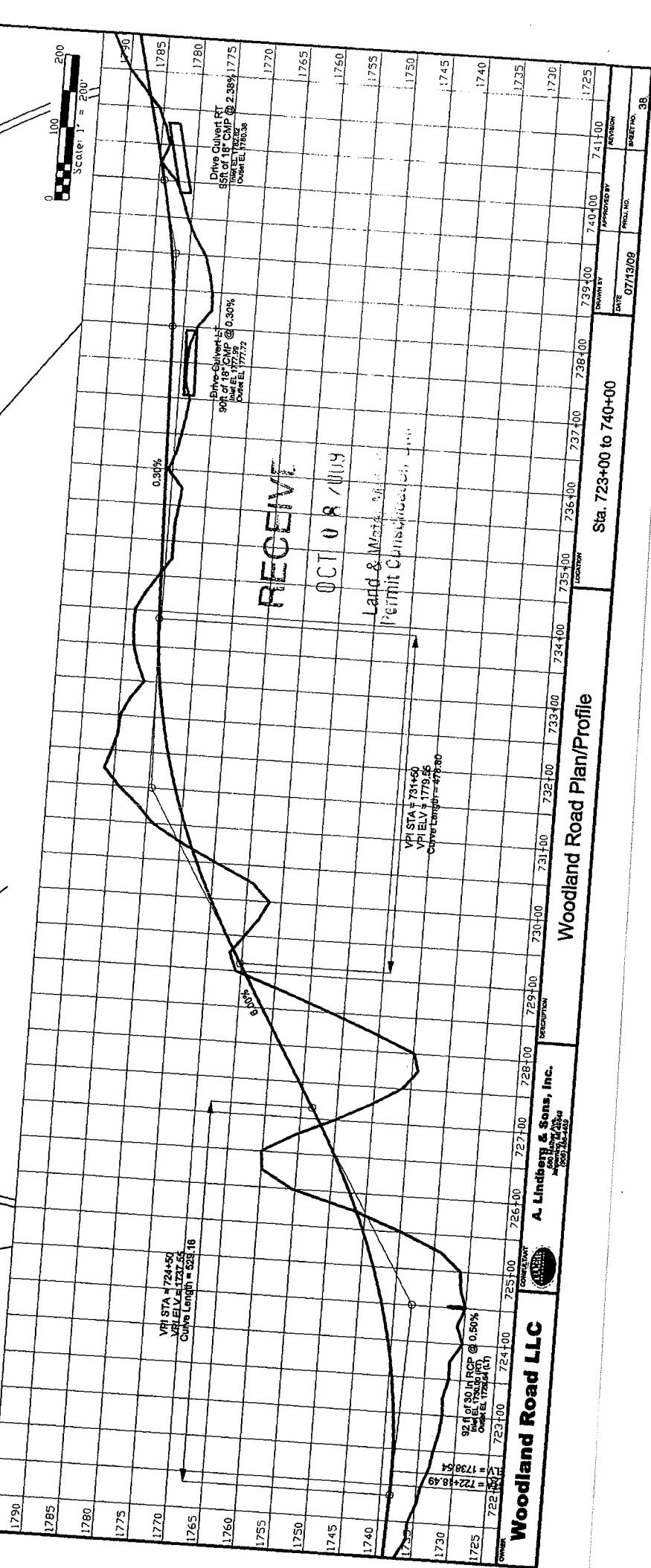
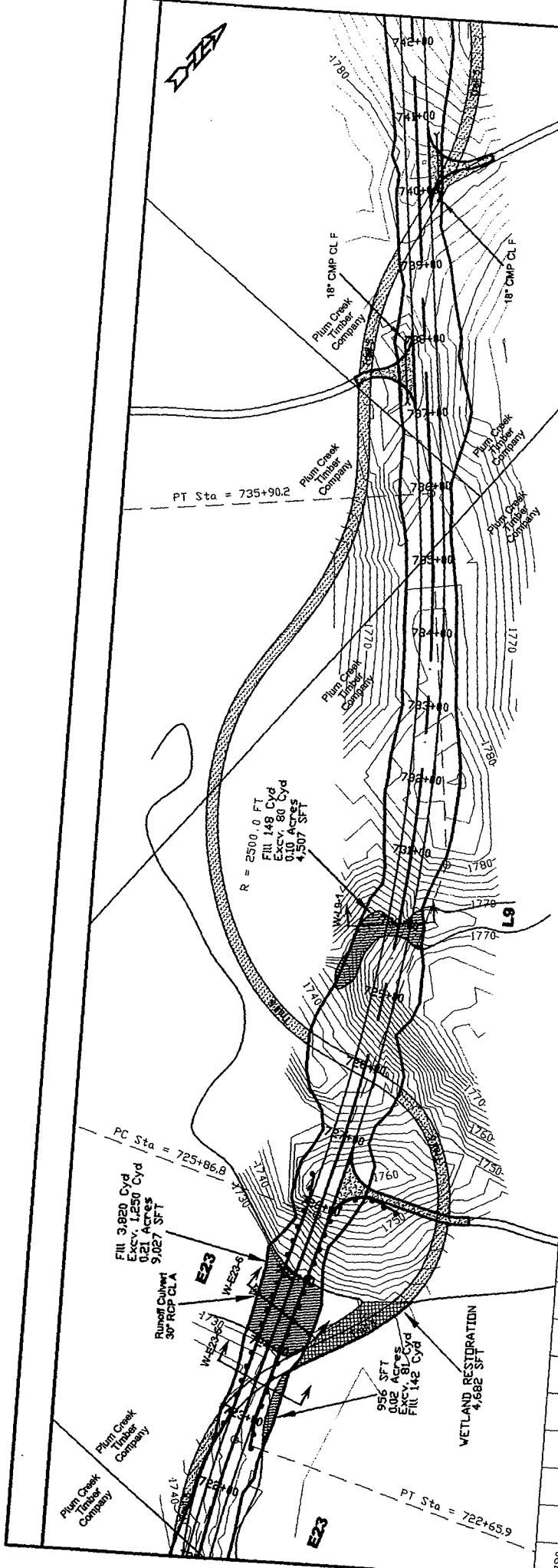


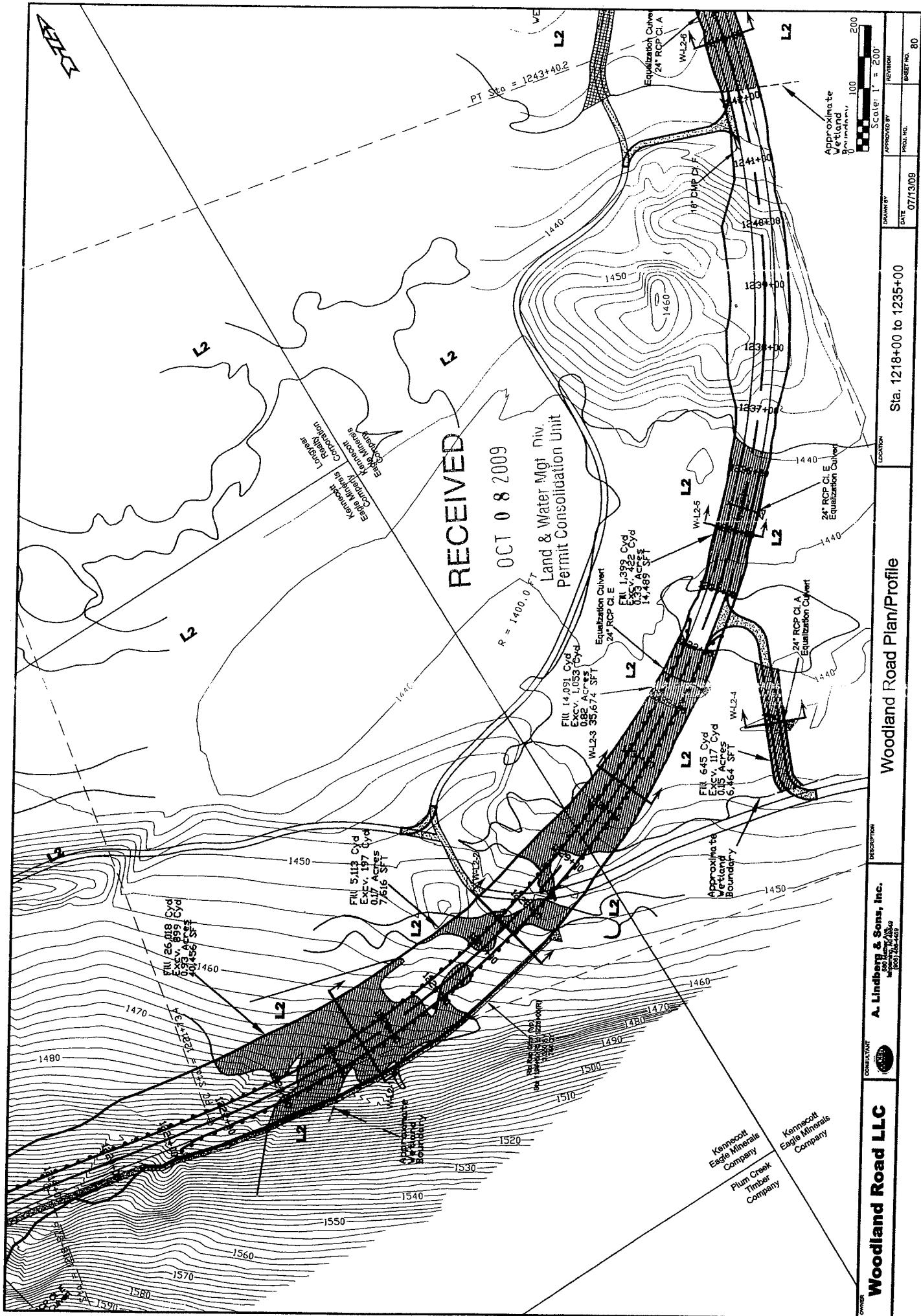


Woodland Road Plan/Profile

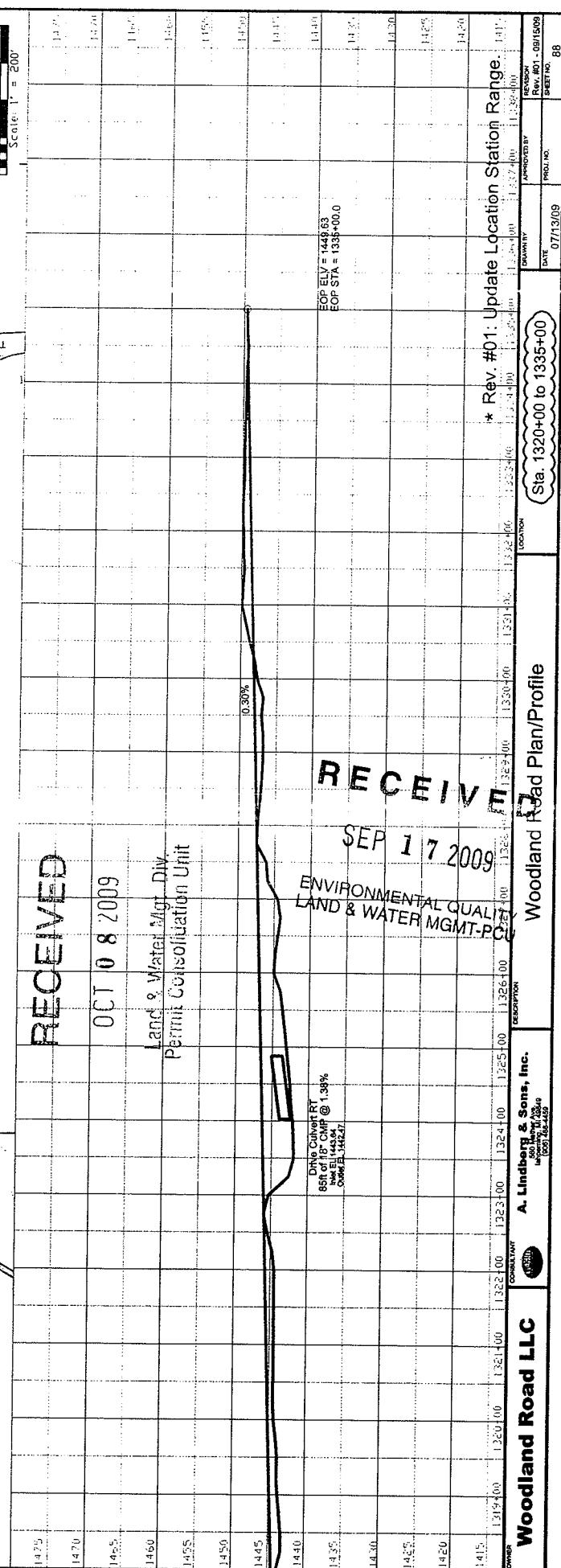
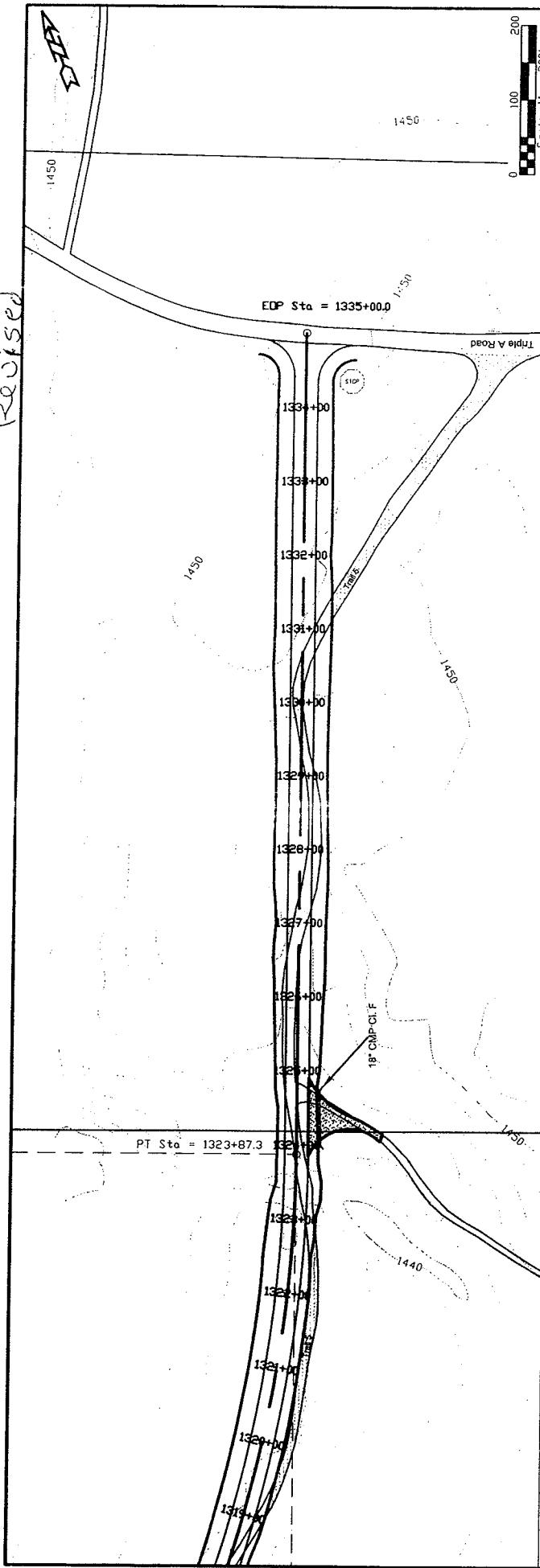
Woodland Road LLC



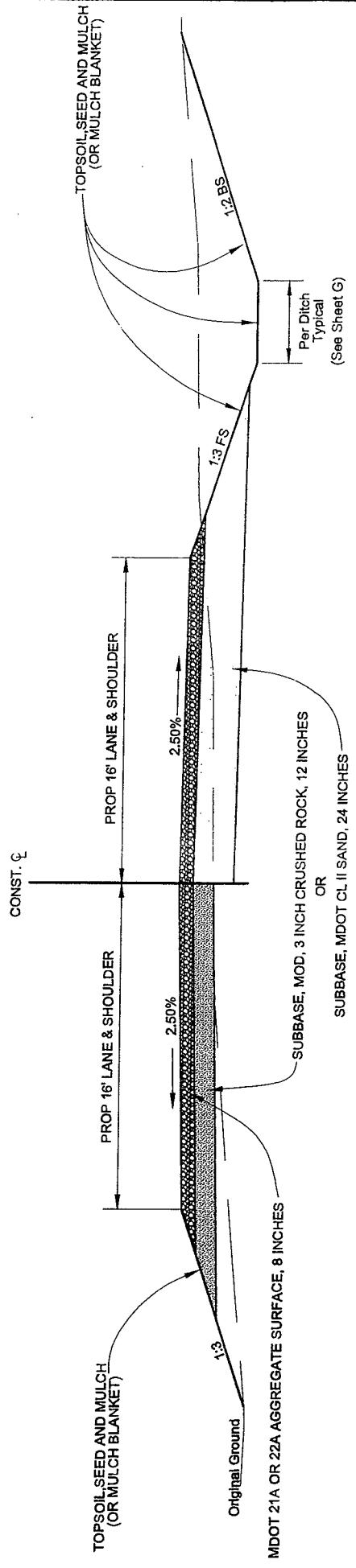




Revised



Typical Gravel Road Section



Stations To Apply

Sta 164+50 to 210+00
Sta 216+00 to 289+50
Sta 292+50 to 327+00
Sta 485+50 to 801+00
Sta 805+00 to 852+00
Sta 888+00 to 922+00
Sta 961+00 to 975+00
Sta 978+00 to 1136+00
Sta 1157+00 to 1172+00
Sta 1247+00 to 1280+00
Sta 1289+00 to 1335+00

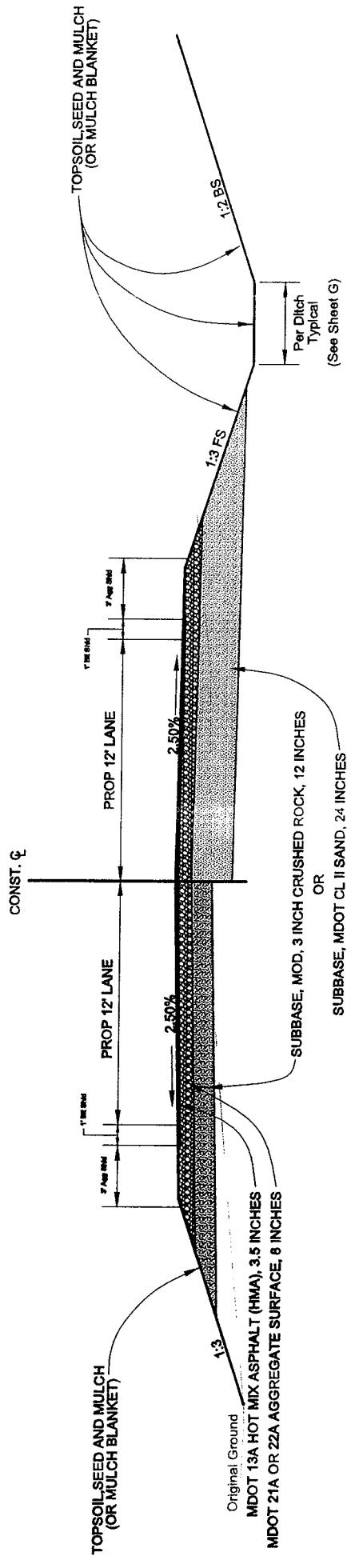
RECEIVED

OCT 08 2009

Land & Water Mgt Div.
Permit Curation Unit

OWNER	CONTRACTOR	DESCRIPTION	LOCATION	DRAWN BY	APPROVED BY	REVISION
Woodland Road LLC	A. Lindberg & Sons, Inc.	Typical Gravel Section	Woodland Road	DATE 07/13/09	PROJ. NO.	SHEET NO. C

Typical Pavement Road Section



Stations To Apply

Sta	135+93.5	to	164+50
Sta	210+00	to	216+00
Sta	289+50	to	292+50
Sta	327+00	to	485+50
Sta	801+00	to	805+00
Sta	852+00	to	888+00
Sta	922+00	to	961+00
Sta	975+00	to	978+00
Sta	1136+00	to	1157+00
Sta	1172+00	to	1247+00
Sta	1280+00	to	1289+00

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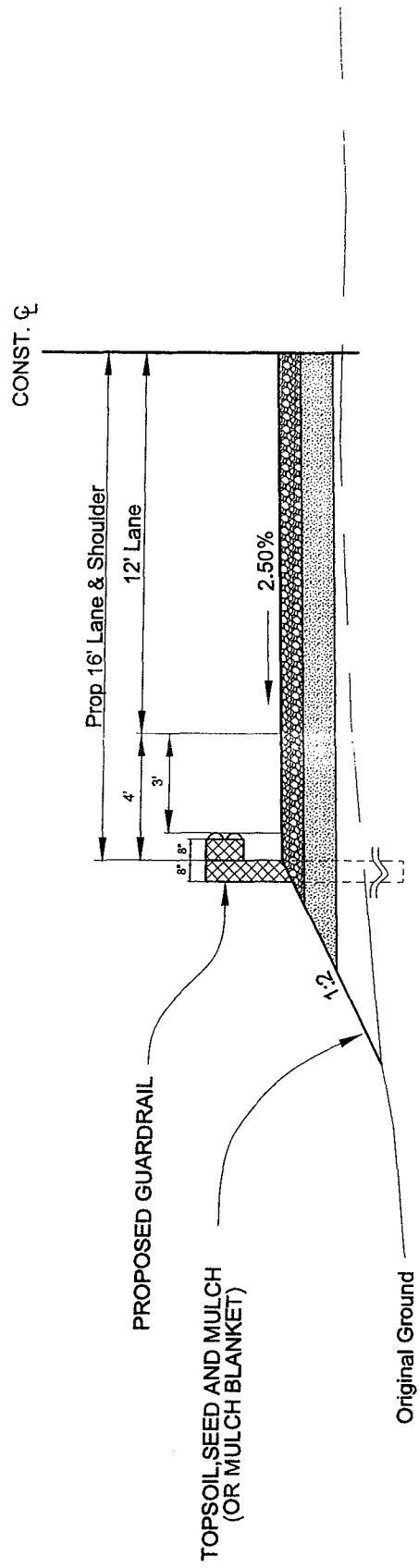
Land & Water Mgt. Div.
Permit Conciliation Unit

* Rev. #01: Update Stations to Apply.

Woodland Road LLC	A. Lanthony & Sons, Inc.	Typical Pavement Section	Location	Woodland Road	ISSUED BY	RECORDED BY	Rev. No.	DATE	PERM. NO.
							D	07/13/09	

Typical Guardrail Road Section

Guardrail, Type B, 8' Posts, MDOT R-60-G
 Guardrail Approach Terminal, Type 1B, MDOT R-61-G
 Guardrail Departing Terminal, Type B, MDOT R-61-D



Stations To Apply

LEFT

158+15 to 159+25
 211+50 to 214+60
 288+25 to 292+25
 355+00 to 357+25
 453+00 to 468+75
 569+75 to 541+00
 612+75 to 613+50
 700+00 to 704+00
 723+00 to 726+00
 733+75 to 797+75
 802+50 to 803+50
 825+25 to 828+50
 889+00 to 878+75
 923+50 to 933+50
 944+75 to 951+00
 975+00 to 978+25
 1068+75 to 1072+00
 1104+75 to 1109+75
 1140+00 to 1148+25
 1195+00 to 1233+00
 1237+25 to 1288+50

RIGHT

158+15 to 159+25
 211+50 to 216+00
 289+25 to 292+25
 353+26 to 357+75
 417+25 to 421+25
 463+00 to 468+75
 516+25 to 522+75
 535+00 to 546+75
 558+50 to 563+75
 572+50 to 577+75
 611+75 to 612+00
 699+75 to 703+75
 723+00 to 726+00
 781+00 to 785+25
 793+50 to 798+25
 802+00 to 803+00
 825+25 to 828+50
 869+40 to 872+75
 874+00 to 878+75
 923+00 to 927+50
 944+00 to 951+00
 963+25 to 967+50
 974+25 to 977+25
 1068+75 to 1072+00
 1096+00 to 1103+00
 1104+25 to 1110+00
 1140+25 to 1144+00
 1221+50 to 1233+00
 1287+00 to 1288+50

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Land & Water Mgt D:
 Permit Consolidation Unit

Woodland Road LLC
 A. Lindberg & Sons, Inc.
 CONSTRUCTION SUPERVISOR: [Signature]
 ADDRESS: [Address]

Description
 Typical Guardrail Section

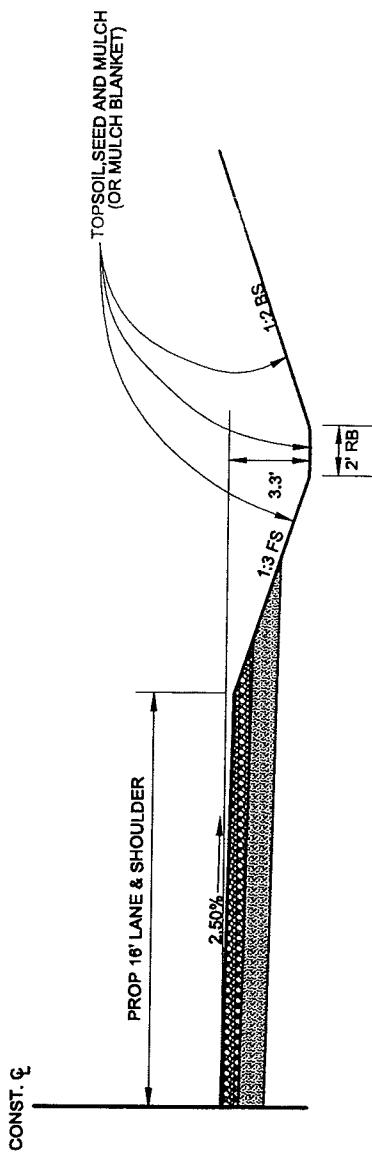
Location
 Woodland Road

OWNER

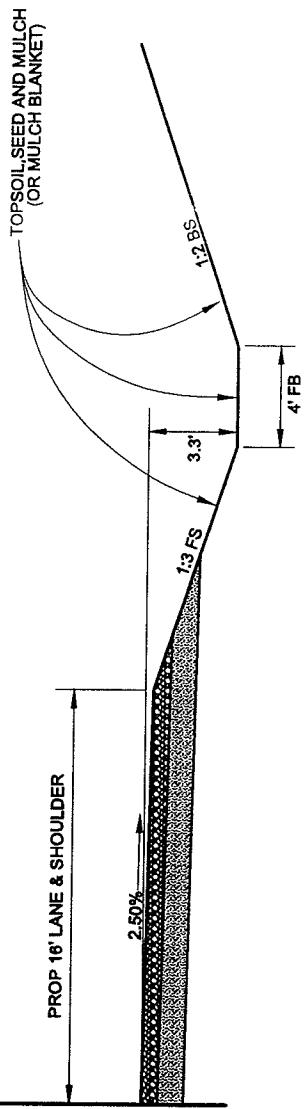
BONDING
 APPROVED BY
 DATE
 07/13/09

REASON
 PROJECT NO.
 BOND NO.
 F

**Typical Road Section
2' Round Bottom Ditch**
Sta 135+93.5 to 485+00



**Typical Road Section
4' Flat Bottom Ditch
Sta 485+00 to 1335+00**



Typical Rock Section RECEIVED

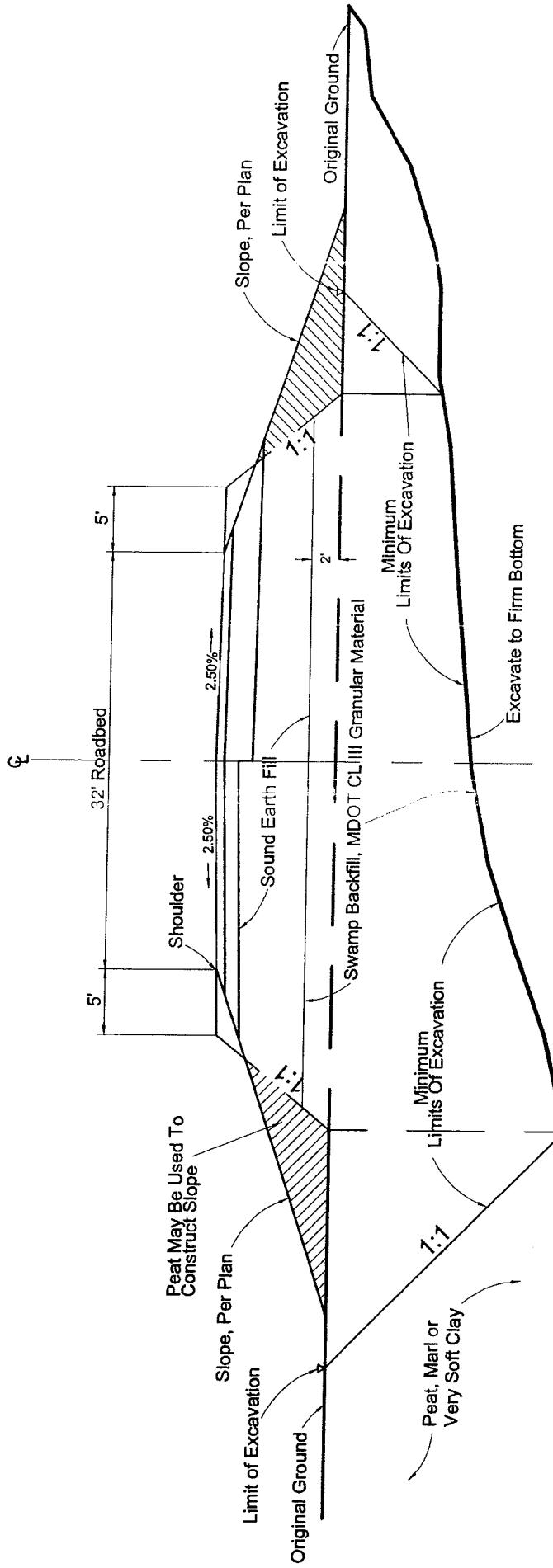
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Land & Water Mgt. Div
Irrigation Conservation Unit

* Rev. #01: Update Station Range.

Typical Peat Excavation

Method A-1, MDOT R-103-C



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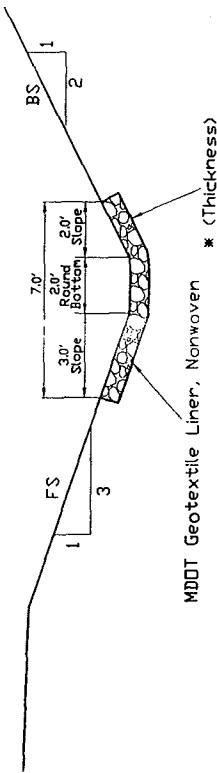
OCT 08 2009

Land & Water Mgt Div.
Permit Consolidation Unit

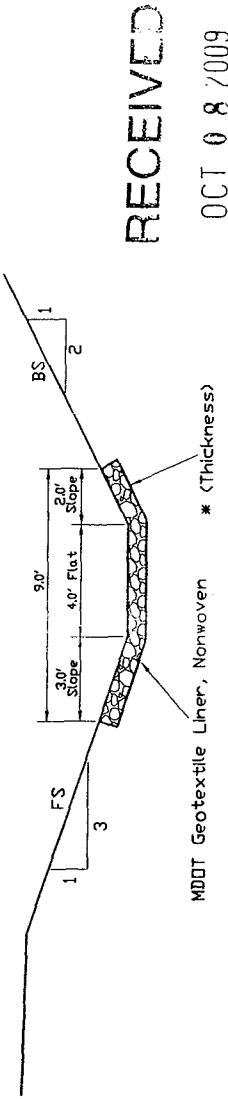
OWNER	CONTRACTOR	DESCRIPTION	DRAWING NO.	INSTRUMENT NO.	REVISION
Woodland Road LLC	A. Lindberg & Sons, Inc.	Typical Peat Excavation	Woodland Road	07/13/09	H

Typical Rip Rap Ditch

2' Round Bottom Ditch Riprap Ditch (typ)



4' Flat Bottom Ditch Riprap Ditch (typ)



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Land & Water Mag Riv
Benton Consolidation Unit

- MDOT Rip Rap, Plain, 8" minimum
- Grouted Rip Rap Outfalls Shall Be The Same As Plain Rip Rap Outfalls, Except the Rip Rap Shall Be Placed In A Layer Of Cement Mortar According To The Current MDOT Standard Specifications

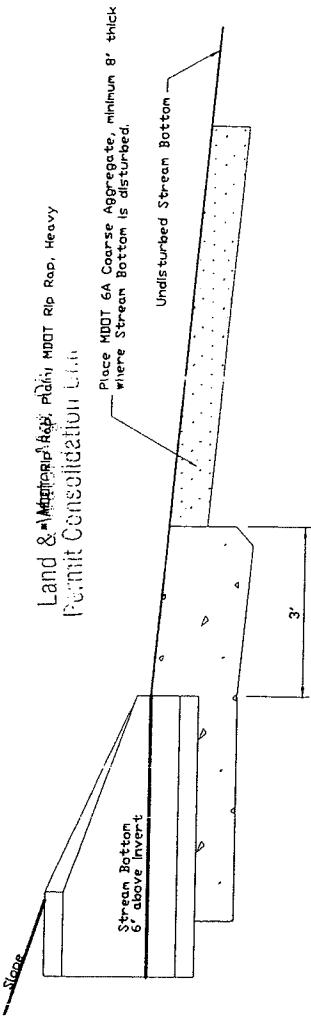
Woodland Road LLC	A. Lindberg & Sons, Inc.	Designer	Typical Rip Rap Ditch	Location	Woodland Road	DRAWING APPROVED BY	ADVANCED
					Date 07/13/09	PROJ. NO. 1	Sheet No. 1

Stream Culvert Rip Rap Protection (typ)

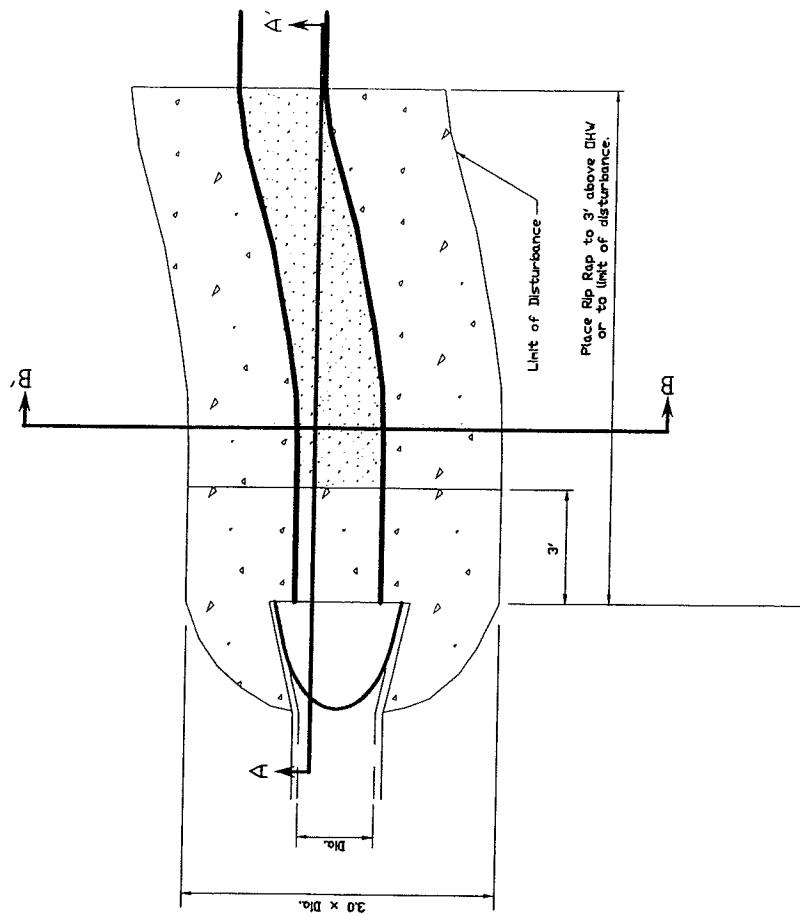
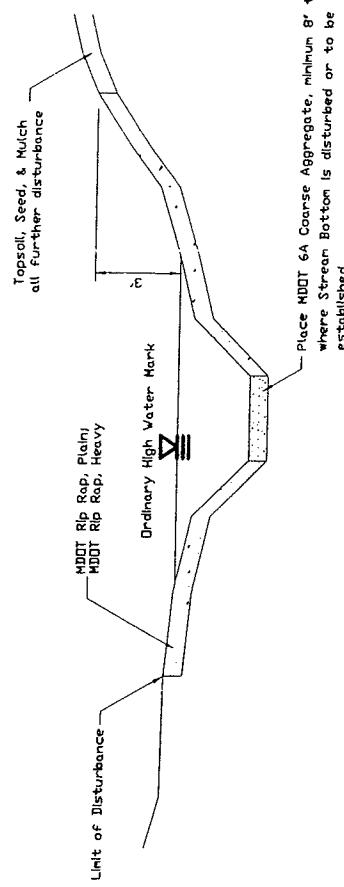
Section A - A'

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OCT 08 /009



Section B - B'

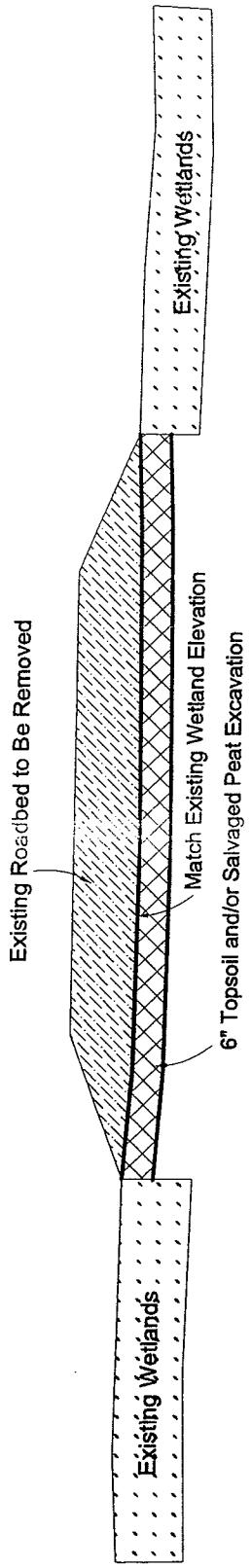


- * Place Rip Rap on MDOT Geotextile Liner, Nonwoven
- * Place Rip Rap on all disturbed areas 3' above Ordinary High Water Mark.

OWNER	CONTRACTOR	A. Lindberg & Sons, Inc.	DESCRIPTION		DRAWN BY	APPROVED BY	REVISION
			LOCATION	TYPE			
Woodland Road LLC			Woodland Road	Typical Stream Culvert Protection			L

DATE	07/13/09	PROJ. NO.	WATER RD L
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Typical Wetland Restoration



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Land & Water Mgt Div
P.L. Int. Conservation Unit

OWNER	CONTRACTOR	DESCRIPTION	LOCATION	DRAWING NO.	APPROVED BY	REVISION
Woodland Road LLC	A. Lindberg & Sons, Inc.	Typical Wetland Restoration	Woodland Road	0713/09	PROJ. NO.	Sheet No. N